The Taxation of Savings and Investment

A research report prepared for the
Economic Council of Canada
1987

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Foreword

There is widespread agreement today that the Canadian tax system needs reform. Most business people and others would concur that taxes as they are now structured are a barrier to efficiency and to higher standards of living because they needlessly distort decisions by investors, savers, consumers, and producers.

There is also a surprising degree of consensus among governments, political parties, and independent observers on the need to broaden the tax base by eliminating tax preferences so that statutory tax rates can be reduced. The consensus does not go so far as agreement on specific measures. The federal government, however, recently announced a sweeping program of tax changes, around which lively discussions and debate are taking place.

Earlier this year the Council released its own suggestions for tax reform, in the form of a Statement entitled *Road Map for Tax Reform: The Taxation of Savings and Investment*. The Statement contained 20 specific recommendations that encompassed all levels of government and the major types of taxes on personal and corporate income, sales, and property. Those recommendations, which are reproduced here in an Appendix, were in turn founded on a three-year research program, the results of which are reported in this companion volume.

Making the transition from a tax system that evolved in the 1970s to one that is suitable for the 1990s and beyond will not be easy or without cost. The question of winners and losers from tax reform, for instance, requires an intimate knowledge, not publicly available, of the incomes, assets, liabilities, and tax circumstances of individual Canadians and individual Canadian firms. It also presupposes foreknowledge of how taxpayers will respond to the changes being introduced - foreknowledge that no one can have with any certainty. And while this by itself is no reason for inaction, it did prompt us, in certain key areas, to recommend gradual changes.

Having said that, it must be acknowledged that, while Council tried very hard, it was not able to reach agreement on all the perspectives put forward in this document or the specific recommendations advanced in *Road Map for Tax Reform*. The comments of the dissenting members are found on pages 31-35 of that Statement.

An Advisory Committee composed of three Council members and five outside tax experts reviewed the main findings of this report, acted as a valuable sounding board, and provided guidance for the research. On behalf of Council, I would like to thank the Advisory Committee for its valuable and much appreciated contribution.

Judith Maxwell
Chairman

READER'S NOTE

The reader should note that various conventional symbols similar to those used by Statistics Canada have been used in the tables:

--	amount too small to be expressed
-	nil or zero
. .	figures not available
. . .	figures not appropriate or not applicable
e	estimated figures
p	preliminary
x	data confidential, to meet the secrecy requirements of the *Statistics Act*.

Details may not add up to totals because of rounding.

1 Introduction

Dissatisfaction with our tax system is widespread. It has become a joke that the reward for enterprise, thrift, and effort is taxes. People complain that personal taxes are too complex and wonder whether others are paying their fair share of the tax burden. Business complains about the time and money spent in complying with taxes, about the extent to which tax factors are important in business decisions, and about the disruption to planning caused by frequent changes in tax legislation. Governments accuse the tax system of rewarding failure rather than success and find it inadequate as a means of raising revenue to finance public services.

Tax reform, however, requires a major research effort to determine what is best suited to Canada's economy. As a contribution to this research, the Economic Council of Canada has undertaken this study on the taxation of capital income – that is, the taxation of saving and investment. Many of the complaints about the tax system arise from its treatment of saving and investment. The principal reason for the focus of our study, however, is our belief that the taxation of savings and investment plays a key role in the determination of present and future output and living standards. Savings accumulated out of current income (together with foreign investment) finance capital formation, which in turn raises future output by increasing the physical capital with which other factors of production have to work. The resulting factor productivity in turn determines wage levels, the return to capital, and living standards in general. Thus by encouraging or discouraging saving, taxation of capital income can play a major role in determining economic well-being.

Our study will build upon the fact that taxation of capital income has been the major focus of attention in the discipline of public finance in recent years. Substantial advances in theory, in the development of new tools for analysis, and in empirical work on the effects of taxes have influenced opinion on many of the issues we shall be studying. Much of this new work is still controversial, however, and the Council has seen one of its roles as that of evaluating recent findings with a view to determining areas of agreement and disagreement among analysts. Where we thought it was needed, we initiated new studies of our own. Our overall objective is to increase public understanding of the strengths and weaknesses of the present system of capital income taxation and to contribute to development of a consensus concerning reform.

The next section will sketch in the background to this study, noting tax reforms that were ongoing in various countries during the course of our inquiry. The remainder of the chapter will outline the scope of our study and the criteria for a good tax system, and describe the main issues that will be addressed in the following chapters.

Background

In Canada, the general interest in tax reform is reflected in a multitude of government actions or proposals for change in the tax system that go well beyond the fine-tuning traditional in budgets. To illustrate, we might consider some of the actions taken or proposals made by federal governments in Canada over the past three years with respect to the personal and corporate income taxes and commodity taxes.

In its 1985 budget, the federal government proposed an alternative minimum income tax with the objective of increasing fairness in the personal income tax. Indexation of the personal income tax was also limited and, to increase investment, personal income tax on the first $500,000 of capital gains earned over a lifetime was abolished. In 1986, proposals were also introduced to increase tax-free contributions to Registered Retirement Savings Plans (RRSPs) over time to a maximum of $15,500 per taxpayer.

The federal government also moved to broaden the base of the corporate income tax by abolishing or reducing certain incentive provisions in this tax and simultaneously reducing its statutory tax rates. As for commodity taxation, the 1986 budget mentioned the possibility of replacing the federal manufacturers' sales tax, which has been around since 1926, with a "business transfer tax" (BTT) or value-added tax (VAT) – and to substitute this VAT for recent personal and corporate income-tax surcharges.

More recently, the federal Minister of Finance asked his officials to prepare plans for comprehensive tax reform for the spring of 1987 which would "put all three elements of the tax system (personal and corporate income taxes, and sales taxes) on the same track."[1]

Influential advice on appropriate directions for the tax system also came from the Royal Commission on the Economic Union and Development Prospects for Canada, (the Macdonald Commission), which reported in 1985 that:

> There appears to be merit to building on recent changes that moved personal income tax in the direction of a personal consumption tax. . . . Alternative accounting methods of defining the corporate tax base, such as the cash-flow approach and the refundability of negative taxes, are also worthy of review.[2]

Taxation changes in Canada are often an attempt not only to improve our own tax system but also to react to recent or prospective changes in the tax systems of our principal trading partners. In the last few years, some of these foreign developments have been dramatic. Major changes in tax systems have been undertaken or initiated by several governments, most notably that of the United States in 1986.

The U.S. reform was preceded by two years of intensive debate following Administration initiatives that were hailed by President Reagan as introducing "a second American revolution." The reforms as enacted involve reductions in maximum personal tax rates from 50 to 33 per cent. In effect, there are three personal brackets - 33, 28, and 15 per cent - with 80 per cent of households being subject to the lowest tax rate. The top corporate tax rate has also been reduced from 46 to 34 per cent, and an even lower rate will apply to small business.

The governments of the United Kingdom, Denmark, Australia, and New Zealand have also adopted the base-broadening approach used in the United States of eliminating exemptions and deductions in income taxes and lowering statutory tax rates. By this means, the government of the United Kingdom reduced its corporate tax rates from 52 to 35 per cent.

Finally, the Canadian federal government is not the only government that has shown an interest in adopting the value-added taxes that are widespread in Europe and are in fact required of EEC members. The government of New Zealand replaced its existing structure of commodity taxes with such a tax in 1986, and the government of Japan has recently introduced legislation to phase in a VAT beginning in 1987.

In the course of reform, several governments have also changed, or plan to change, their "mix" of taxes, mainly with the intention of reducing the importance of the personal income tax. In the United States, a 5-per-cent decrease in personal income taxes is to be financed by a 22-per-cent increase in revenues collected from corporate taxes. In New Zealand, the introduction of a value-added tax was accompanied by reductions in personal and corporate income taxes, and the governments of Canada and Japan propose similar reductions in personal and corporate income taxes when they introduce value-added taxes. The government of the United Kingdom has also increased the share of value-added taxes in its tax mix in recent years.

The Scope of Our Study

The number of taxes included in our enquiry is extensive. It includes personal and corporate income taxes, property taxes, resource taxes, and broad-based commodity taxes. "Special-purpose" taxes such as excise taxes are excluded from our study.[3] On the other hand, resource taxes are a particularly important form of capital income taxation in our economy. Few other OECD economies obtain a greater share of total governmental revenues from this source.

We shall not narrow our analysis to include only the *visible* components of capital income. For instance, the rental services of owner-occupied housing are properly assigned an imputed value in national income accounts although they are not taxed. We shall accordingly be as interested in the appropriate tax treatment of capital income from owner-occupied housing as in the appropriate tax treatment of any other investment. Indeed, to do otherwise would be to ignore an asset that accounts for about thirty per cent of the physical wealth of Canadian households.[4]

We shall be equally interested in the appropriate tax treatment of not only physical assets such as buildings and machines but more intangible investments such as investment in "human capital." In other words, we shall look at how personal expenditures on education and the returns from education should be treated in our tax system. Taxes on financial wealth only have long been opposed because they discriminate in favour of investment in human capital.[5] There may be some who think the analogy between such investment and investment in physical assets is a little far-fetched. The importance of appropriate tax treatment of human capital, however, may be indicated by recent estimates that place the value of such assets as being equivalent to as much as 96 per cent of the total capital in the U.S. economy.[6]

The Interdependence of Capital Income Tax Measures

It is clear that the various taxes on capital income cannot be studied in isolation from each other: they must be viewed as part of an interdependent system of measures. To cite the most obvious example, the intent of dividend tax credits is to prevent double taxation of the shareholder by integration of the personal and corporate income taxes. In contemplating changes in the corporate income tax, therefore, the effects on *both* the corporate and the personal income taxes must be considered.

It should also be evident that our interests are not confined to one level of government within Canada. Property taxation is almost exclusively used as a tax base by local governments; resource taxation, primarily by provincial governments. Both federal and provincial governments share jurisdiction in the fields of corporate and personal income taxes.

The interactions among tax measures undertaken by the various levels of government also have to be considered carefully, because some of them may offset each other. For instance, for small business, personal and corporate income taxes are fully integrated in federal tax returns. This means that there is no advantage to small business in realizing profits as wages, say, rather than dividends, as the tax bite by the federal government is the same in both cases. When provincial corporate tax provisions are taken into account, however, one finds that it pays small business in some provinces to extract profits in the form of dividends rather than wages.

As a final example of interdependencies in our analysis, we have to consider Canada's relationships with the rest of the world. Canadians are not likely to ignore the importance of international trade and capital movements in our economy, and our analysis will assume that we live in a world where the discretionary power of governments in small open economies is limited. Formally, we also give up freedom to manoeuvre in tax treaties with our trading partners. Tempting as it may be to conclude that the goal of our enquiry should simply be to pursue the most efficient and equitable system of capital income taxation for Canada, therefore, we must take into account our interdependence with other economies.

These examples show that the interactions between tax increases that affect capital income and those between capital income taxation and the rest of the economic system must be taken into account in our analysis. We shall, in fact, make extensive use in our study of relatively new tools, such as general equilibrium analysis, that facilitate this objective.

Macroeconomic Conditions

The issues that we shall study concern the structure of our tax system. They thus concern "framework" policies designed to attain long-run goals in our economy, such as those of obtaining higher levels of output and standards of living. As the Lortie Committee emphasized in its 1982 Report, it is inappropriate to change the structure of the tax system to attain short-run macroeconomic goals such as providing an immediate stimulus to employment or lessening inflation.[7] It might well be argued, however, that there is at present a more pressing structural issue in public finance than tax reform, and that is the size of government deficits.

Our analysis will disregard this issue and concern itself with improving the taxation of capital income while keeping government revenues constant. Improvements in the structure of capital taxation would, we believe, constitute an advisable preliminary step in deficit reduction. We find that the current measures of taxing savings and investment introduce gross distortions into the functioning of our economic system. Taxes may, of course, be raised on this distorted base - as was done, for instance, in raising the federal manufacturers' sales tax from 9 to 12 per cent in the period 1983-86. Our analysis reveals, however, that the costs of the resulting distortions in the economy were much greater than the revenues raised by the increase in taxes. We are of the opinion, therefore, that tax increases to remove structural deficits would be both more economically sound and more acceptable if carried out on a suitably reformed tax base.

Criteria for Tax Reform

To judge whether consumption taxes are "better" than income taxes, whether we should follow the lead of other countries by "base-broadening," or whether we should change the mix of our taxes, we need to have a set of criteria that define a good tax system.

Most of the relevant criteria of a "good" tax system, in fact, go back a long way, Adam Smith being the author of what is still one of the most lucid discussions of the subject.[8] The criteria we shall employ are those of efficiency, equity, simplicity, stability over time, and the way taxes can contribute to the accountability of governments in a democratic society.

We find that the relative importance of each of these criteria has changed over the years, either because social values have shifted or because of developments in research. Thus views held, say, at the time of the Carter Commission may no longer represent a consensus in the discipline.

Efficiency

The definition of efficiency arises from the fundamental economic problem of scarcity of the resources necessary to achieve our numerous goals. For our purposes, efficiency also has an important time element. We are concerned with maximizing output and welfare not only currently, with the resources at hand, but also in the future, when resources can be expanded. Thus the definition of efficiency at a fixed time is quite simple: efficiency is achieved when output cannot be increased by any rearrangement of factors of production. Efficiency in a "dynamic" context - that is, over time - is a somewhat more complex matter. A working definition here might be that efficiency is attained when the welfare of any one generation cannot be increased without decreasing that of a different generation.

While appeals to what the tax system may do for economic growth are frequent in the debate over tax reform, some care has to be taken in specifying the relevant relationships between efficiency and growth.

Increases in efficiency will raise future output levels and the growth rate *in the short run* - for instance, by increasing the quantity of factors that are effectively employed and by obtaining the most appropriate combination of these factors. It is evident, however, that the result is a "one-shot" improvement in output levels - in the sense that there is nowhere to go once we are making maximum use of available factor inputs and have the "optimal" combination of these factors of production. After this level of output has been reached, economic growth is determined only by increases in the labour force and by the amount of technical progress. Our debate about the structure of the tax system has little to do with these two variables, although technical progress may be influenced by tax policy towards research and development.

The Neutrality Principle

Any enquiry into how we might improve efficiency in the allocation of our resources through capital income taxation should begin by asking whether there is a principle that, if adhered to, will ensure an efficient outcome. The answer, which was first clearly set out by Adam Smith in the *Wealth of Nations*, is that the state should interfere as little as possible with the working of market mechanisms. While there are well-defined exceptions to this rule, today's working definition of efficiency still embodies this notion of *neutrality*, or of "minimizing interference with economic decisions in otherwise efficient markets."[9]

Of course, it needs to be recognized that provision of public services has to be financed by taxation, and this in itself involves costs. Nevertheless, our objective is still to minimize the costs of this interference with market mechanisms.

Several applications of the neutrality principle will prove to be of particular importance in this study, particularly the tax treatment of consumption over time and the tax treatment of different types of investment projects.

Neutrality and Consumption over Time — An important consideration in the choice of a tax base is the appropriate treatment of consumption over time. Does our approval of neutrality in the tax system imply neutrality with respect to consumption now and in the future?

Much of the debate over the merits of income and consumption taxes, or over whether income taxes should be levied annually or over a lifetime, hinges on this question. An annual income tax favours consumption now and discriminates against consumption in the future, so that those who prefer to save now and consume later are penalized.

Another way of looking at the argument relates to the appropriate combination of factors of production in the economy. If savings were not taxed, would increased investment result in higher levels of output and standards of living? Even more simply, are we saving enough?

In fact, society may not want to be neutral with respect to consumption now and in the future, and therefore may want to tax savings. Both income and consumption taxes have another important effect: the effect on labour supply. Both taxes reduce work effort, since leisure can be chosen as an alternative to work, and "they can't tax leisure." But since, during one's working years, one's income is usually greater than consumption, consumption and lifetime-income taxes will have greater effects on labour supply than an annual-income tax, because to raise the same amount of revenue, their tax rates have to be higher in the short run.

It is therefore evident that the debate over income and consumption taxes cannot be settled on theoretical grounds but, rather, turns on the empirical questions of the responsiveness of saving and labour supply to changes in tax rates. This study will present new estimates for Canada on the relative importance of these variables. These estimates will then be used in a simulation of the consequences for efficiency of income and consumption taxes.

Neutrality and Investment — Even a casual inspection of the *Income Tax Act* reveals that policymakers may not set great store by the principle of "minimizing interference with otherwise efficient markets." Our tax system is extensively used to manipulate market behaviour in an attempt to achieve a wide variety of social and industrial goals. In the federal corporation-income tax, for example, we find incentives that favour investment in different industries, assets, and regions, and by different methods of financing, sizes of businesses, and owners of capital. Other incentives are found at all levels of government in the personal, corporate, property, resource, and commodity tax bases. Indeed, there are even incentives to use the incentives in the system. In the oil and gas and mining industries, for instance, many companies have not been able to use existing incentives for exploration and development because they are in a nontaxable position. Flow-through shares and other after-tax financing instruments have been introduced in an attempt to circumvent this problem.

Further, there are even counter-incentives to limit the use of incentives! The political perception has been that too much use has been made of tax incentives by the wealthy to avoid taxes. The alternative minimum tax was recently introduced to impose a global limit on the use of incentives by individual taxpayers.

A primary task of this enquiry will be to assess the effects of various incentives in the Canadian tax system. In a system that was neutral with respect to different types of investment, we would expect tax rates on different investment projects to be approximately equal. Our task will be to assess the quantitative importance of the various deviations from neutrality in the Canadian tax system and assess their implications.

Similar enquiries in other countries have found wide variations in the treatment of investments and have thus provided further stimulus for tax reform. In an influential enquiry that compared effective tax rates on new investment in the United Kingdom, United States, West Germany, and Sweden, substantial differences in the tax treatment of capital income were found to be characteristic of all four economies surveyed. In fact, tax rates on new investment projects ranging between + 100 and − 100 per cent were not uncommon,[10] and one of the principal authors of these studies characterized the tax treatment of savings and investment in these countries as being unsystematic or even "random" in effect.[11]

To the economist, large differences in the effective tax rates for new investment projects have obvious implications for output and income. If investments that would otherwise be losers are promoted into winners by the tax system, the economy does not come out ahead. Viewed another way, the volume of capital in the economy is effectively lowered and, with it, output and income levels.

We hasten to acknowledge that most non-neutralities in the tax system are the result of conscious and defensible public policy, although there are exceptions.[12] The pursuit of well-intentioned objectives through the tax system, however, can lead to the disintegration of the revenue base. If a tax system is loaded with incentives, the tax base is narrowed, and higher tax rates have to be imposed to raise given levels of revenue. These high tax rates fuel the search for further tax relief.[13] The findings of a recent Irish commission on taxation reflect a familiar process:

> The history of the value-added tax in Ireland has echoes of a familiar theme. In 1972 the tax began its life as one levied at reasonably modest and acceptable rates on a wide base. Since then the base has been steadily eroded and the rates of tax on the remaining items have been increased to unacceptable levels. This has increased the pressure for further concessions which are very difficult to resist on any rational basis.[14]

Finally, we note that not all departures from neutral treatment of investment in the tax system may be the result of intentional public policy. Another important task in our enquiry will be to ascertain the extent to which the interaction of inflation with an unindexed tax system systematically distorts the size and composition of investment.

Efficiency Costs of Taxes

The economist's concept of the efficiency costs of alternative methods of taxation embraces more than the net amount of revenue raised through a tax. Taxation also imposes *additional* costs on society by changing behaviour away from what would otherwise be desired. In response to an increase in tax, for instance, people may decide to work less, and a tax on savings may influence them to save less than they would have saved otherwise. Such changes in behaviour are referred to by the economist as the efficiency costs of taxation (also known as deadweight; allocative or social costs; or excess burden), and their measurement aids in assessing alternative methods of taxation.

Awareness that the tax system may impose substantial efficiency costs is comparatively recent. In the early 1960s, Harberger's pioneering work suggested that the combined efficiency losses in production from the corporate, personal, and property taxes in the United States amounted to only one-half of 1 per cent of GNP.[15] This finding may well have been instrumental in causing tax reformers at the time of the Carter Commission to treat efficiency costs of taxes as being relatively insignificant. Recent estimates of the costs of taxes, however, are as high as 8 to 10 per cent of GNP,[16] with estimates of 17 to 56 cents per dollar of additional revenues recently reported for the United States.[17] One estimate for Canada even suggests that the marginal efficiency costs of raising taxation may be at least equal to the revenue raised![18]

To put it mildly, figures such as the above are bound to raise questions about aggregate levels of taxation, the size of government, and the sources of tax distortions. Thus more attention is now being paid to efficiency issues in the tax-reform debate.

Equity, or Fairness

Two measures of the fairness of taxes that are customarily used in analysis are the extent to which equals are treated equally, and the extent to which the burden of taxation is shared among people in different economic circumstances.

Horizontal Equity

The extent to which people in equal positions are treated alike by the tax system - or the criterion of horizontal equity - has been a traditional principal criterion of fairness in the tax system and was the principal goal of the Carter Commission.[19] It is also a principal goal of our study.

The idea of horizontal equity has undergone some reinterpretation and re-evaluation in the years since the Carter Commission. It is now emphasized that favourable tax treatment - a departure from horizontal equity - may be "capitalized" in the price of the favoured asset or activity. The effects on capital values may be almost instantaneous, as when a favourable property tax assessment increases the selling price of a house. On the other hand, market adjustments may take time and involve the movement of resources into the favoured activity. Eventually, however, after-tax returns are expected to equal those in comparable activities. For instance, the present preferred treatment of the Canadian film industry undoubtedly results in a larger industry than if no such favourable tax treatment existed, which is exactly what was intended. After allowing for risk, however, after-tax returns to capital in this industry should be the same as those that can be obtained elsewhere in the economy.

Returns from tax-favoured activities may be dissipated in another obvious manner. After all, a whole industry of tax practitioners exists to facilitate the capturing of "rents" from tax preferences. If the tax treatment of income from capital gains is more favourable than that from other income, for instance, legal and accounting expertise will be used to convert the latter into the former. The cost of employing these highly skilled resources in tax planning, however, reduces the initial benefit from such tax-avoidance activities.

There are several lessons to be learned from this discussion of the effects of market adjustments arising from horizontal inequities in the tax system. In the first place, it may be difficult to find beneficiaries of preferred tax treatment once the market has made its adjustments: there may be no extraordinary benefit to participants in a tax-favoured activity, or the beneficiaries may be long gone. In a sense, equals are being treated equally *after* these market adjustments have taken place. These market adjustments to tax preferences may be one reason why the horizontal-equity principle is less stressed in current debates on tax reform.

It is proper to note, however, that dissipation of tax benefits will remove horizontal inequities only if favoured tax treatment is available to all and equally valued by all. These conditions are unlikely to be observed in practice. Although the current tax system favours home ownership, for instance, preferences for home ownership and the means to attain it obviously differ among households. Even with capitalization of the benefits of this preferred tax treatment, therefore, some degree of horizontal pre-inequity will remain.

One might also draw attention to the fact that the movement of resources into tax-favoured activities to equalize rates of return in itself involves inefficiency. This has led one observer to conclude that "the reduction of horizontal inequities may therefore relate more to efficiency than to equity objectives."[20] Another study notes that "tax distortions always show up as inequity, inefficiency, or some combination of the two."[21]

The debate on the importance of horizontal inequities in the tax system has led to heightened concern about fair treatment of existing asset holders when tax reform takes place. Abrupt changes in tax provisions will cause changes in capital values and windfall gains and losses that are seen as inequitable. A proponent of a tax on comprehensive annual income, for example, has to face the fact that an immediate switch to taxation of owner-occupied housing on annual-income-tax principles would cause a capital loss in roughly one-third of the assets of Canadian households. Similarly, the substantial changes in property values that would occur in some areas if property taxes were henceforth assessed on the basis of current market value appears to have been a principal obstacle to this type of reform.[22]

Vertical Equity

We are also concerned with the vertical-equity criterion - i.e., the tax treatment of people with different levels of economic resources and the resulting distribution of the burden of taxation across different economic groups.

It is worth commencing any discussion of this subject by acknowledging that goals concerning the distribution of income are inevitably divisive and involve value judgements in which the economist has no claim to superiority. Any decision on the appropriate degree of redistribution in our tax system should be taken by elected representatives. *Our study will not therefore propose to alter the existing incidence of taxation.* Rather, our approach will be to seek tax arrangements that increase the size of the total social pie, leaving discussion of the appropriate division of this pie to wider debate through the political process.

Economists can, however, contribute by calculating the true incidence of the tax system and pointing out the costs of attaining given equity objectives in terms of other criteria. Indeed, important changes in opinion over time in both of these areas have influenced the agenda for tax reform.

The Incidence of Taxation — Calculations of the incidence of the tax system typically involve two major steps: obtaining data on the distribution of income in a given time interval, and making assumptions about the incidence of particular taxes. Until comparatively recently, most calculations of tax incidence have used annual data on the distribution of income. The principal finding in these studies was that the tax system *as a whole* did little to redistribute income.[23] This perception, together with the assumption that the tax system did not entail substantial efficiency costs, led many tax reformers in the 1960s to argue in favour of increasing progressivity in the tax system.

The finding itself may be said to be flawed on several counts. In the first place, it is well-known that inequalities in income and some of its components, which are important in incidence studies, are much more marked in annual data than in data for longer time periods. For instance, the relative income, savings, and consumption of individuals depend on their ages or positions in their life cycle, so that annual-income distributions give a distorted picture of those in low- and high-income groups. For instance, one recent Canadian study showed that the average age of the family head falls from around 60 in the lowest annual-income decile to around 45 in the highest decile.[24] Moreover, annual data reflect "transitory" changes in the earnings and wealth of individuals, which by definition are not a good indication of long-run status. Many interruptions can occur in the normal flows of income, savings, and consumption, caused by such events as temporary unemployment spells or windfall gains in income from, say, inheritances or lottery winnings. An annual-income distribution thus catches people in a "snapshot" or "freeze-frame" view that is not necessarily typical of their longer-run experience. For example, it has been shown that half of the inequality in annual earnings disappears when one looks at lifetime earnings.[25]

A second qualification is that many of the assumptions concerning the incidence of particular taxes are controversial. For instance, the incidence of sales and excise taxes can only be described as an unsettled issue at the present time. Whereas these taxes have traditionally been assumed to be regressive, it has recently been argued that these taxes are proportional or even progressive in incidence.[26]

One influential conclusion from an evaluation of these incidence calculations based on annual-income data is that they reveal a considerable amount of implicit theorizing about the incidence of taxes. The author concludes that, using annual-income data "the tax system can appear as sharply progressive or regressive," depending upon the assumptions made about shifting of taxes.[27] Sensitivity to such shifting largely disappears in simulations of the incidence of taxation of lifetime income. In one such simulation, inequalities in the distribution of income in Canada are much less marked than in annual data, and the tax system is mildly progressive in incidence.[28]

None of the incidence calculations described so far take into account behavioural reactions to taxes. For instance, it may be assumed in "static" incidence calculations that capital bears the burden of property taxes or the corporate income tax in the form of a reduced rate of return. This, in turn, raises the share of other factors of production in the total economic pie.

In a "dynamic" sense, however, the reduced rate of return to capital may reduce capital formation, and hence the capital stock with which labour has to work. This will in turn reduce labour productivity and wages, so that an attempt to reduce capital's share of the pie may reduce the return to labour in the long run. Much of the work that follows in subsequent chapters will explore the nature of such dynamic consequences of capital income taxation.

A final complicating factor in assessing the incidence of our tax system arises from the "openness" of the Canadian economy - an economy, in other words, in which trade and international flows of factors of production are extremely important. In such an economy, it will be obvious that a tax on a mobile factor of production is unlikely to be effective. The attempt to tax highly mobile international capital flows, for instance, may simply result in capital going elsewhere. In a very real sense, therefore, the burden of a tax on mobile factors of production in an open economy will be borne by the less mobile factors - principally labour and land.

Costs of Redistribution — The lesser importance attached to vertical equity in recent discussions of tax reform may partly result from some of the implications noted above. Redistribution may appear to be less important if a long view of the distribution of income suggests that inequality is less of a problem than is shown by annual-income distributions. Tax incidence in the longer perspective may also be more evidently progressive than in the short run. Dynamic considerations may also suggest that a preoccupation with short-run division of the economic pie is short-sighted.

Other considerations have also led to lesser emphasis on the goal of redistribution through the tax system. In particular, whereas the efficiency costs of redistribution were seen in the 1960s as being relatively inconsequential,[29] this is no longer the case. In one recent article, it was alleged that a simple demogrant to households in the lower two-fifths of the income distribution entailed efficiency costs of three-and-a-half dollars for every dollar redistributed.[30] These costs primarily arise from effects on the labour supply of those paying for and receiving such transfers. For similar reasons, research on optimal taxation suggests that the costs of an egalitarian tax policy may be substantial.[31] Finally, the few available general equilibrium simulations of the trade-off between efficiency and redistribution in the tax system suggest that the incidence of taxation may be as important in determining the level of total output as, for instance, the question of whether the base for taxation should be income or consumption.[32]

Paralleling this academic interest in the costs of redistribution has been a political desire in many countries to "flatten" tax-rate schedules, primarily by reducing the marginal rates applicable in the top income brackets. Many OECD countries have changed their rate structures in this way in recent years. The most notable example is the United States, where the highest federal marginal personal-income tax rate has been reduced from 70 per cent in 1981 to 33 per cent as a result of recent tax reform.[33]

Simplicity

In any tax system, simplicity is perhaps the most understandable objective, but given the many conflicting pressures on policymakers, it may be difficult to attain. Complaints about the complexity of the tax system must be taken seriously, especially since Canada's tax system is largely self-administered. Any lowering of taxpayer morale tends to threaten the voluntary basis of the system.

Certainly, public concerns about the complexity of our tax system appear warranted. Just under 40 per cent of all federal taxpayers now have their personal-income tax returns completed by others.[34] Another telling indication is the lack of knowledge of the system among those who are supposed to administer it. The Nielsen Committee Report, for instance, speaks of

> . . . the bifurcation of the public service into a small group which understands the tax system and its effect on private capital allocation, and a much larger group that operates as if there were no corporate tax system.[35]

The Committee found that only two "line" departments in the federal government were in any sense "tax-sophisticated."[36]

Complexity in the tax system may spring from either the rate structure or the tax base.

Complexity in the Rate Structure

Economists seem to be largely agreed that complexity in the rate structure is not a great problem and that there is little to be gained from collapsing the rate structure into two or three brackets, as has been done in recent U.S. legislation.[37] It is, after all, a trivial task to find the applicable tax rate from the T1 table once a person has spent the considerably larger amount of time required to calculate "taxable income."

It may nevertheless be noted that progressivity in tax rates does cause complexity in our tax code, primarily in attempts to improve equity in the existing system. Thus our tax code contains provisions for income-averaging, to iron out the effect that progressive tax rates have on income bunched in a year. These provisions are an attempt to apply notions of equity in the tax system over a somewhat longer time frame than the annual accounting period for taxes. In a very important sense, other tax provisions such as RRSPs may also be used by individuals to "self-average" taxes over a lifetime.

Indexation is another example of tax provisions intended to increase equity in the tax system. The most common practice has been for governments to index rate brackets and exemptions in the personal tax for inflation. Thorough indexation of the corporate tax and of personal taxes on capital income represents a much more complex endeavour. Indeed, one of the principal alleged advantages of personal lifetime-income taxes or consumption taxes and business cash-flow taxes is that these bases would be relatively immune to inflation. Rate brackets and exemptions would still need to be adjusted if a progressive rate structure were employed in such tax bases, however.

This last consideration leads to the obvious inference that a "flat-rate" tax system would remove most of the need for indexing and averaging in the tax system. A serious proposal for a flat-rate consumption tax system has recently been put forward by Hall and Rabushka in the United States. The public relations exercise for this proposal claims that the resulting annual tax returns for both business and individuals could be completed on a postcard![38] Although such "flat-tax" schemes can be progressive in incidence (by appropriate setting of the lowest income bracket in which no tax is paid), substantial changes in the distribution of taxes by income class would still be entailed (primarily in a shift in the tax burden from the rich to the middle class).

Complexity in the Tax Base

Given general agreement that the rate structure of taxes is not a primary cause of complexity in the tax system, one is left with the base as the principal source of such complexity.

There is, in fact, little doubt as to the primary source of the problem here, which is that we do not have a tax base drawn up on a uniform and consistent principle. One consequence is that taxpayers try to beat the system by arranging their affairs so that essentially similar activities are taxed at lower rather than higher rates. The authorities try to prevent such "arbitraging" by closing these "loopholes" in the tax system through legislation, thus adding more complexity to the tax code.

Some pointed examples of tax arbitraging can be drawn from experience with the personal income tax. Here, the fundamental problem arises when different sources and uses of income are taxed at different rates. The difference in treatment between capital gains and other income is a classic example. It has been estimated that as much as one-half of the U.S. Tax Code has been devoted to limiting the extent to which U.S. taxpayers can take advantage of the lower tax rate for long-term capital gains.[39]

Another obvious cause of complexity in the tax system arises from the use of tax incentives to further industrial policy and a wide variety of social objectives. As we have seen, these incentives are pervasive.

It is worth noting that the complexity of our tax system does not extract a one-shot cost in terms of the time and trouble spent in the annual ritual of completing the required forms. Less visible but more important is the continuing need for the taxpayer to take taxes into account in making economic decisions throughout the rest of the year.

The solution long advocated for this problem is the selection of a comprehensive tax base drawn up on a uniform and consistent principle. It should be noted that the selection of the principle itself is not crucial to the point being made. While the examples we have cited above have been drawn from experience with an annual-income tax, proponents of lifetime-income or consumption taxes would equally object to the lack of consistency in the present treatment of savings in our tax system.

The choice of a consistent principle for taxation would be an important step in simplifying the tax system, although the simplicity of accounting methods would vary with the type of tax base chosen. For instance, proponents of lifetime-income or consumption taxes, corporate cash-flow taxes, and value-added taxes maintain that these concepts would be substantially more simple than the current annual personal and corporate income taxes because they can be implemented by cash-flow rather than by "accrual" accounting methods.

The reader will realize that in the calculation of annual personal and corporate income taxes, capital and current outlays and receipts are treated differently. For instance, the firm is given an immediate deduction for wages paid in the calculation of corporate income taxes. Purchases of capital assets are not immediately deductible for tax purposes, however, since they are not used up immediately in production. In calculating the firm's taxable income, depreciation provisions are applied to reflect the loss of value of these capital assets over time.

Comparable adjustments have to be made in treating capital items when calculating annual personal-income taxation. For instance, strict application of a personal income tax on an annual basis requires the inclusion of income from capital gains on assets. This poses substantial difficulties when assets are not bought and sold during the year.

The accrual concepts inherent in the design of personal and corporate annual-income taxes therefore involve a large amount of imputation. Even when circumstances are favourable, some imprecision is inevitable. In trying times - for instance, when inflation is rapid - accurate accrual accounting becomes much more difficult.

By way of contrast, lifetime-income or consumption taxes, corporate cash-flow taxes, and value-added taxes would avoid this problem by eliminating accrual accounting. For instance, a tax on lifetime income or consumed income would involve only the recording of current income and savings flows. Under corporate cash-flow taxation, purchases of capital goods would be immediately "expensed" or deducted from the firm's receipts. A value-added tax on European lines similarly would allow firms immediate deductions for purchases of capital assets.

Simplicity of implementation is therefore an important factor that has to be taken into account in assessing the advantages of competing tax bases.

Visibility of Taxation and Accountability of Government

The criteria that taxation should be visible and levied with a minimum of administrative discretion have long been important to students of public finance. These characteristics increase the accountability of government in a democratic society.

To these goals has recently been added the revival of an old concern - that the tax system should constrain what is seen as an innate tendency to growth in the state whether the latter results from interest-group pressure or bureaucratic expansion.[40]

These concerns are present in the current debate on tax reform. The fear that the introduction of a value-added tax would constitute a "money machine" that would lead to growth in government was given by the U.S. Treasury as a major reason for excluding this tax from reform proposals in that country.[41] In Canada, the federal manufacturers' sales tax might well be regarded as an affront to the principles of visibility and accountability - being largely hidden to the general public and being a monument to administrative discretion. Visible taxes such as retail sales taxes, property taxes, and the personal income tax, on the other hand, score high marks on these grounds of visibility and accountability.

Those concerned with these attributes of visibility and accountability also favour indexation of taxes in periods of inflation. The view is that if a government wants to legislate tax increases, it has the responsibility to do so directly. This concern is not unrelated to fears of government growth. Certainly the combination of progressive tax rates, unindexed tax systems, and inflation gave governments an escalating share of national income in the 1960s and 1970s, not only in Canada but in many other countries.

Finally, the hidden nature of many tax incentives works against visibility. During the 1960s, concerns about such tax breaks led to the development of "tax-expenditure" analysis. Our report will have a new look at the subject with the aid of more recently developed analytical tools.

Stability and Certainty

While much has been written about the efficiency and equity characteristics of alternative tax bases, one of the most constant complaints from the business sector concerns the frequency of changes in the tax system. This concern is understandable, and it has not been ignored by economists. Indeed, Adam Smith stressed certainty as one of the primary criteria of a good tax system. The maxim that an old tax is a good tax also reflects belief in the virtue of stability in the tax system.

Unfortunately, change has been very frequent in the development of the Canadian tax system. In a recent analysis, Hettich and Winer noted that in the first century of Confederation, new federal taxes were introduced or old ones abolished on 17 different occasions. More recently, 55 major changes (involving $100 million or more) in federal taxes occurred in the decade of the 1970s after changes emerging from consideration of the Carter Report were completed.[42] Currently, one tax practitioner alleges that "even in a dull year, we appear to be turning out over 100 pages of amendments to the *Income Tax Act*."[43] By these standards, the most recent year for which data are available was not dull: in 1986, there were over 300 pages of amendments to the Act.

One of the main problems created by such instability in the tax system concerns long-term investments that are made within the context of current tax law. Abrupt changes in the laws may cause economic dislocation and create windfall gains or losses. The resulting uncertainty may cause capital formation to be lower than it would otherwise be. Problems of instability in the tax system can also cause disruption in the economic decisions of the individual concerning career choice, labour force participation, and place of residence.

Unfortunately, what is rational behaviour for the government in one period may not be equally rational behaviour in a subsequent period. In particular, once investment is sunk or committed on the promise of a particular set of taxation provisions, it is a sitting duck for subsequent government taxation. This so-called "time-inconsistency" problem in government behaviour may entail substantial costs. Taken to its extreme, a string of broken promises by government could lead both saving and investment to dry up.[44]

The necessity for certainty and stability in the tax system is one reason for the strong tradition in the tax literature favouring rules over discretionary policy by the authorities. The belief in rules is especially marked among those who think preserving individual liberty is the primary objective of a good tax system – from Henry Simons in the 1930s through to the 1986 Nobel laureate James Buchanan.

The desire to avoid penalizing taxpayers for arrangements undertaken in good faith under existing taxation provisions means that tax reforms should provide adequate transition provisions to suggested new arrangements. "Grandfather" clauses and other phasing-in of new rules allow time for adjustment and reduce the value of windfall gains and losses from tax changes.

Finally, structural faults in the tax system, such as the interaction of inflation with taxes, should be removed. As will be seen, not only does inflation alter tax rates on aggregate savings and investment; it also discriminates among investments and affects financing and production decisions. *Ad hoc* responses to inflation by the authorities may compound – rather than ease – the problem of instability in the tax system.

Our conclusion is that frequent change in the tax structure has been one of the primary problems of the Canadian tax system and that government can contribute to lessening uncertainty in investment by reducing the uncertainty caused by its own actions. We also think that less frequent change in our tax system would stimulate capital formation.

Trade-Offs between Objectives

Our discussion of the criteria for a good tax system has revealed that there may be important trade-offs to be made between the various objectives of Canada's tax system. For instance, interesting conflicts arise between efficiency and the redistribution of income, especially now that efficiency costs are better understood. Moreover, some complexity may be unavoidable in the tax system if it is to attain efficiency, equity, and stability. A prime example is the need to deal with inflation, which requires indexing not only personal tax brackets and exemptions, as has been done in the past in Canada, but also the corporate tax and personal taxes on capital income, which has not been tried here. Although indexation may add complexity to an annual-income tax system, it would be more equitable, and would produce greater stability, efficiency and certainty in the economy.

Many other examples of such trade-offs could be given, but one in particular should serve as a warning as we move on to the rest of our analysis. When a new tax system is installed, investment that is already committed under the existing tax regime must be fairly dealt with, even though transition provisions will add considerably to the system's complexity.

The Issues

Choice of Tax Base

Undoubtedly the most important question in our enquiry, raised by the Macdonald Commission, concerns the underlying principle by which taxation should be levied. In deciding on the appropriate base for taxation, the Council also had to consider such issues as the relative roles of personal and corporate taxation and the functioning of the tax system under inflation.

The Personal Tax Base: Three Options

The general public may be accustomed to the idea that the appropriate measure of ability to pay taxes is income, but there has never been agreement on this principle among economists in the field of public finance.

Development of the principle that ability to pay taxes is best measured by income is associated with the names of Haig and Simons.[45] Support of the principle reached its high-water mark in this country with the report of the Carter Commission in 1966.[46] Advocacy of consumption taxation has an equally long and distinguished intellectual history and has been supported by many of the principal thinkers in economics.[47] The basic idea of consumption taxation was perhaps best expressed by the 17th-century political philosopher Hobbes, who said that people should be taxed on what they take out of the economic system (their consumption) rather than what they contribute (measured by their income).

Both income and consumption tax bases have received substantial support from official enquiries throughout the world. The *Report* of the Carter Commission is still widely regarded throughout the world as the definitive statement in support of an income tax system, and a 1984 U.S. Treasury document that led to current U.S. administration proposals for tax reform is another notable restatement of support.[48] The most recent enquiry to support a consumption tax base is perhaps that of the Macdonald Commission, and the consumption-tax principle has also been supported by the Meade Committee in the United Kingdom (1978)[49] and was outlined in an influential 1977 U.S. Treasury Report.[50]

Our study will introduce a third type of tax base - a *lifetime-income* tax - which will be studied as an alternative to what we shall distinguish as an *annual-income* tax.

While the establishment of accounting periods for an income tax might at first sight appear to be a rather mundane issue, important principles are involved. In the first place, critics of income taxation have traditionally focused on the fact that it "double taxes" savings.[51] This is certainly true if income is taxed at annual intervals, as the taxpayer is first taxed on income, and then savings out of the after-tax income enter the tax base for subsequent years. The result, as we shall see, is that an annual-income tax discriminates in favour of present consumption and against future consumption. A second important criticism of a progressive annual-income tax is that two taxpayers with the same present value of lifetime income are not treated similarly when one taxpayer has a more stable income stream than the other.

Upon reflection, it is evident that most income tax systems depart from an annual-income accounting standard in various ways. For instance, tax payments are usually collected on earnings at shorter intervals than a year. Moreover, taxpayers with fluctuating incomes are often allowed to average income over several years. Business losses can usually be applied to reduce past and future income tax payments. Some forms of saving for future consumption (e.g., during retirement) also receive favourable tax treatment.

A system in which the *lifetime income* of the individual was taxed would avoid the problems that arise from fluctuations in income and the "double" taxation of savings. All income would be taxed - irrespective of whether it was consumed immediately on receipt, saved for later consumption, or given to others during life or upon death. Under a consumption tax, by way of contrast, gifts and bequests from income would only be taxed if and when spent by the recipient.[52] As we shall see, some existing provisions of the Canadian tax system may make a lifetime-income tax a practical possibility.

The Role of Corporate Taxes

The reader should note that the debate about the appropriate measure of taxpaying capacity is a debate about the effects of taxes on people. There is universal agreement in economics about the irrelevance of legal intermediaries, such as corporations, in this respect. The words of the Carter Commission on the subject are striking:

> All taxes are ultimately borne by people through the reduction in the command over goods and services for personal use. Taxes can, of course, be collected not only from people but also from corporations, trusts and co-operatives. But organizations as such cannot bear taxes. It is the people who work for, sell to, buy from, or are members, beneficiaries or owners of these legal entities who are made better off or worse off by taxes. It is the effect of taxes on the well-being of people that matters.[53]

It should also be noted that in an effort to avoid the double taxation of personal income derived from corporations, an attempt is made in Canada to integrate the corporate and personal income taxes by means of dividend tax credits. The effects of the corporation tax are therefore very different from those in a country such as the United States where no such integration scheme exists.

What then is the relevance of the corporation income tax in this debate over the choice of the tax base? Economists see two roles for such a tax. First, the tax could function as a withholding tax on certain forms of income that are difficult to tax where they originate, such as capital gains on investments in corporations or income accruing to foreigners. Such a withholding role for the corporation income tax was clearly outlined by the Carter Commission. Second, as pointed out by the Macdonald Commission, the corporate tax could function as a tax on pure profits if it were designed as a "cash-flow" tax, which simply taxes the difference between incoming corporate receipts and outgoing expenditures. The attraction of such a pure-profits tax to economists is that it would raise revenues without changing behaviour. Both roles for the corporation income tax will be analyzed in our examination of the question of the appropriate tax base.

The Problem of Inflation

Another issue of concern to advocates of both income and consumption taxes is the ability of the tax system to deal with inflation. During the 1970s, the interaction of inflation with unindexed tax systems caused major economic disruptions in many countries. Both "income taxers" and "consumption taxers" believe in taxing "real" rather than "nominal" magnitudes, and a considerable amount of the debate over the merits of the competing principles relates to their ability to deal with this problem.

Base-Broadening

The reform that has almost become synonymous with tax reform in popular parlance is that of "base-broadening," which makes the tax base more comprehensive by eliminating exemptions, deductions, and preferences in the tax system. Although the principle on which taxation is levied does not change, tax rates can thus be lowered without reducing revenues.

Base-broadening in an annual-income tax base has the objective of treating all sources and uses of income equally. On the side of sources of income, this may involve taxing capital gains at the same rate as other income, as in recent U.S. legislation and as proposed by the Carter Commission in Canada. Or it may involve broadening the sources of income subject to tax, as in proposals in the 1981 Canadian federal budget with respect to taxation of employee fringe benefits. With respect to uses of income, proposals may involve ending or limiting preferred tax treatment for some forms of savings for retirement such as RRSPs or their equivalent, as in recent U.S. legislation, or more generally by the elimination of a whole slew of exemptions, deductions, and preferences in the personal and corporate income tax systems.

The appeal of base-broadening is not limited to reform of personal and corporate income taxes. The movement to substitute value-added taxes for commodity taxes at the wholesale or manufacturers' level of distribution is motivated partly by the desire to obtain lower but more comprehensive taxes on goods and services. Although the Canadian federal manufacturers' sales tax accounts for about 14 per cent of federal budgetary revenues, for instance, it affects only about 30 per cent of the value of household consumption since it excludes both services and trade margins. Moreover, it is best described as a selective excise tax rather than a general sales tax: it does not even tax all manufactured goods, and six commodities alone account for 61 per cent of its total revenues.

While these examples of base-broadening have been drawn from current proposals with respect to income and indirect taxes, the principle does not apply exclusively to these forms of taxation. Most reformers subscribe to the goal of obtaining as broad a tax base as possible, irrespective of which tax base they favour.

Changes in the Tax Mix

Finally, as we have seen, some current governmental proposals relate not to reform of a particular tax base but to a change in the tax mix. For instance, the share of corporate taxes in the revenues of government has been increased in the United States, and the government of Canada is proposing to do the same. The share of commodity taxes or value-added taxes in total tax revenues has also increased in recent years in the United Kingdom and New Zealand. Are these measures steps in the direction of comprehensive tax reform? We shall be discussing this question in later chapters.

Relationships between the Tax Bases

In describing the principal issues in our study, we should include questions about the relationships between the various taxes we have discussed. For example, is a value-added tax an income or a consumption tax? Exactly how would lifetime-income taxes or consumption taxes be implemented? These questions can be answered by making use of the accounting framework for national income and output – the familiar circular flow of income and expenditures.

Abstracting from relationships with the rest of the world, we obtain national output by summing value-added at each stage of production and distribution. When total output is thus calculated, it can be broken down into just two types of products – consumption and investment goods. The value-added of output is, of course, identical to the incomes people receive on the opposite side of the circle of national incomes and expenditures. Again, such incomes can be decomposed into only two uses – the acts of consumption and saving.

With the value of consumption common to both the output and income sides of the accounts, the value of saving on the income side of the accounts must be equal to the value of investment on the output side.

The conclusion is that both consumption and investment can be taxed as either income or output. For instance, consumption can be taxed through the uses of income by employing retail sales taxes or other commodity taxes levied at earlier stages of distribution. Alternatively, either lifetime income or consumption can be taxed by an income tax that allows deductions for saving in vehicles such as the Registered Pension Plans and Registered Retirement Savings Plans in our present personal tax system. The taxpayer is allowed to reduce taxable income by his or her contributions to these plans and must declare withdrawals from these plans as taxable income. All balances remaining in these plans at death are taxable. If there were no limits on the amount that could be contributed to RPPs, RRSPs, or similar "registered" savings plans, an *annual-income* tax would be converted into a *lifetime-income* tax. Beyond that, if funds could be withdrawn from registered savings for purposes of making gifts or bequests without the donor paying taxes, we would have a consumption tax in the form of a tax on *consumed income*.

It is also possible to tax consumption indirectly through the output side of the circular flow of income and expenditures. A value-added tax on European lines - which permits business to subtract the cost of their inputs and investment goods from the value of their output - is nothing other than a tax on consumption.

The reader who is one step ahead of this analysis may wish to know whether a consumption tax could not be achieved more easily by initially taxing all income, but thereafter exempting the flow of capital income - interest, dividends, and capital gains - derived from savings. This is, in fact, exactly how Canada's tax system does treat investment income from a large proportion of the physical assets in our economy - owner-occupied housing. Those investing in owner-occupied housing are not allowed to deduct the costs of such investments from taxable income. Equally, they are not taxed on the yield from this investment, either in the form of the rental value of the services from such housing or any capital gains when the asset is sold. Effectively, the tax on the subsequent consumption made possible by the original savings and investment has been "prepaid."

Such is the equivalent of taxing only earnings - i.e., wages and salaries - and exempting the flow of capital income from the tax base. Under an earnings tax, for instance, contributions to a pension plan would *not* be tax-deductible, but no tax would be payable on the pension itself. That effectively would have been "prepaid."

There are, however, important differences between such "prepaid" consumption or earnings taxes and other forms of consumption taxation. One of the principal differences arises from the fact that consumption is much more evenly distributed over a life cycle than earnings.[54] Annual differences in the timing of earnings and consumption mean that very different tax rates would be required to raise the same amount of revenue from the individual at any point in his life cycle. We shall find in our subsequent analysis that earnings and consumption taxes have very different consequences for present and future output levels.

Direct vs. Indirect Taxation

Our discussion of the interrelationships between the various tax bases raises an important point as to how taxes should be implemented - directly, by means that take into account the circumstances of the taxpayer, or indirectly, by means that do not. As we have seen, a consumption tax can be implemented directly by taxing consumed income, and as with the personal income tax, the tax burden can vary with the taxpayer's characteristics. An indirect consumption tax - administered either through commodity or value-added taxes - cannot be so personalized. The distinction becomes important when the tax system attempts to achieve distributional and other objectives. Such objectives can be implemented through indirect taxation, but the process is cumbersome, raises administrative and compliance costs, and is uncertain in effect. Indeed, it is not uncommon to find governments exempting goods from sales taxation on the grounds that such taxation would be regressive when the opposite is the case.[55]

Advocates of a consumption tax thus face problems when deciding whether to use direct or indirect tax instruments. Income taxers have little use for broad-based indirect taxes, and the proposals of the Carter Commission would have rendered the use of federal sales taxes superfluous.[56] The choice between direct and indirect taxation is particularly important in this country because Canadian governments make greater use of indirect taxation than their counterparts in other OECD countries.

* * *

The rest of the analysis in this report can be briefly described. A concise description of Canada's present system of capital income taxation is given in Chapter 2. In Chapter 3 our purpose is to see how even-handed the tax system is in its effects on investment. In Chapter 4 we examine the effects of different tax bases on savings, investment, output, and income over time, and, in Chapter 5, we examine the implications of the international economy for the taxation of capital income.

With these background chapters out of the way, we proceed to examine the implications of our analysis for the actual design of capital income taxation. Chapters 6 to 10 concern themselves with the appropriate roles of personal, corporate, commodity, property, and resource taxation, respectively. Chapter 11 draws together the conclusions of our enquiry.

2 The Current Tax Treatment of Capital Income in Canada

Much of the muddle and complexity of the present system of capital income taxation derives from the absence of any clear view of what principles do, or should, underlie it. The existing system is in fact a mixture of taxes on income, consumption, wealth, and economic rent. Thus corporation and personal taxes are income-based; sales taxes fall on consumption; the property tax is a tax on a particular type of wealth; and resource taxes may be levied on economic rent (the difference between the cost of extracting a resource and its value on world markets). Yet this classification is only approximate; in practice, each of these taxes is itself a hybrid species. The personal income tax, for example, has several features - such as the $1,000 deduction for dividends and interest, the $500,000 lifetime exemption for capital gains, and the exclusion of imputed rent on owner-occupied housing - that, strictly speaking, are consistent with a personal consumption tax but not with an annual-income tax. The corporation income tax is partly a withholding tax on equity income and partly a tax on "pure" profits. Sales taxes are not confined to consumption; they are levied on many capital goods as well. The outcome is a capital income tax system that lacks both a consistent rationale and a coherent structure.

The primary task of this chapter will be to describe the present Canadian tax system and examine how the system diverges from the principal competing bases for taxation - one based solely on income and the other based on consumption. It is not the purpose of this chapter to debate the merits of these alternative tax bases. It is sufficient for present purposes to note that, compared with our present hybrid system, the adoption of *either* of the alternatives would increase welfare.[1]

The Alternative Tax Bases

In describing what should be included in income and consumption taxes, the role of corporate taxes is problematic. It will, in fact, be discussed at length in Chapter 6. Here it is sufficient to note that corporate taxes may serve as a "withholding" tax in an income tax system - to tax some income that could otherwise escape taxation. To prevent shareholders from being doubly taxed on equity income, some form of "integration" of personal and corporate income taxes is also required.

Corporate taxes may also be designed not to tax equity income, as at present, but to capture the "pure" profits of corporations or those over and above normal rates of return. Although such taxes could be used in conjunction with a personal income tax, they are often advocated in conjunction with personal consumption taxes and will be so described in this chapter. They are based on a cash-flow method of calculation.

An Income Tax Base

"Comprehensive income" is defined as the sum of all real consumption and all additions to real wealth in a given period (for tax purposes, usually a calendar year). Thus a comprehensive-income tax would have to take into account all income from all sources, including both accrued and imputed income. All receipts would be measured net of the expenditures required to generate the receipts, and both receipts and expenditures would have to be measured in real terms; that is, they would have to be purged of the effects of inflation. Defenders of a comprehensive-income tax maintain that comprehensive income, as defined, is a good indicator of the taxpayer's "ability to pay." As it is standard practice to use an annual time frame for income calculations, we shall limit our discussion here to an annual-income tax.

At the Personal Level

A tax on comprehensive personal annual income has many implications for the design of the tax base.

- For neutrality, capital gains would have to be fully accounted for on an accrual basis, not upon realization; that is, capital gains would have to be computed and included in income each year whether or not they were realized.

- A tax on comprehensive annual income would have to be indexed for inflation with respect to capital income, as well as labour income; thus the inflation-induced loss in purchasing power of all money wealth would be deducted from capital income in arriving at the tax base.

- The personal and corporate income tax systems would have to be fully integrated so that the taxes paid on returns at the corporate level would be taken into account in determining personal tax liability, thus preventing heavier (or lighter) taxation of certain types of returns.

- There could be no provision for deductible forms of saving, which have the effect of shifting taxable income from one year to another. This would include registered pension plans and registered retirement savings plans, as well as deductions for contributions to the Canada and Quebec Pension Plans.

- Annual taxable income would have to include all transfer payments, all employer-paid fringe benefits, all gifts and inheritances received, and returns on life insurance policies. All these items provide an ability to consume without diminishing net personal wealth.

Two other major considerations would be the tax treatment of consumer durables and the approach to taxing human capital. The logic of an annual-income base requires that both the income used to purchase an asset and the returns accruing to that asset be subject to tax. In the case of financial assets, the application is straightforward; both the income used to purchase the asset and the return to the asset itself are included in taxable income. Under the present tax system, consumer durables, including housing, have been purchased with income on which tax has been paid; and the return to the asset is generally nonpecuniary in nature and will not enter the tax base. A tax on comprehensive annual income, however, requires that the value of such returns be imputed as they accrue and added to taxable income; thus, for example, the imputed rent of owner-occupied housing would be taxable.

The treatment of human capital presents us with an inverse situation. The returns to human capital, in the form of increased future labour income, will be taxable; however, the depreciation and interest costs of holding human capital should be deductible, as they are for physical capital. The major cost of acquiring human capital often comes in the form of earnings forgone by not being employed during the period of schooling or training. In a comprehensive-income tax system, such costs would have to be imputed and deducted from income if neutrality between human and income-producing physical capital were to be achieved.

At the Corporate Level

In a comprehensive-income tax system, the federal corporation tax base would be the true income of the corporation. This means, among other things, that the allowance for wear and tear and for economic obsolescence of the capital stock – the capital cost allowance, or CCA – would be based on true economic depreciation. It would also be appropriate to base CCAs on replacement cost rather than on the original acquisition cost, so that in inflationary periods they would provide enough funds to replace machinery and buildings. By the same token, inflationary gains in the value of inventories should be removed from the tax base.

The deductibility of interest payments as a cost at the corporate level would also be a problem in inflationary times. Interest rates are usually higher in times of inflation than they are in noninflationary periods, to compensate lenders for the reduced purchasing power of the principal at the time of repayment. A corporation's tax-deductible interest payable on debt contracted in inflationary periods thus reflects a premium to make up for the erosion in the value of the principal and consists, in effect, of a payment of (real) interest and a repayment of part of the (real) principal. In noninflationary times, however, the repayment of principal is not considered to be a business cost and is not deductible for tax purposes. To preserve neutrality, the corporation-tax part of the system would permit the deductibility of real interest only.

A Consumption Tax Base

Proponents of a consumption tax base maintain that taxpayers should pay taxes not according to what they have put into the "social pot" (measured by income) but according to what they take out of it (measured by consumption). Taxes on personal consumption can be implemented by means of sales or transaction taxes, which are impersonal; that is, they do not vary with the characteristics of the taxpayer. The role of these "indirect" taxes will be discussed in Chapter 8. A tax on personal expenditures can also be implemented by means of income taxation, which allows deductions for saving, and we shall now describe the operation of such a *tax on consumed income*, or personal consumption tax.

A Personal Consumption Tax

For explanatory purposes, we shall first assume that under the personal consumption tax all income spent on goods and services would be subject to tax. All saving would occur in registered form, without limitations (unlike saving under the familiar registered retirement saving plan, which has both dollar and percentage-of-income limits for tax purposes). Registered saving would not be taxed when it occurred; but dissaving would be taxed when spent. Borrowing would be treated as dissaving; repayment, as saving – so that borrowing for the purpose of acquiring registered assets would be taxed, but repayment (including interest) would be tax-exempt.

Now we drop the assumption that all savings would be in registered form. Individuals want, and need, mixed portfolios for their savings. For durables, such as owner-occupied housing, that yield imputed income, the acquisition cost would be nondeductible for tax purposes (by declaring it a "nonregistered" asset). And since the present value of a future income flow is equal to the value of the asset that yields the flow, paying tax on the income used to purchase a nonregistered asset is the equivalent of "prepaying" the taxes on the future flow of imputed income generated by the asset. It follows that borrowing for the purpose of acquiring nonregistered assets would not be taxable, nor would repayment and interest be deductible. Such an arrangement allows taxpayers to forgo the complicated tax- and inflation-accounting that would be necessary under a comprehensive-income tax system.

A Cash-Flow Corporation Tax

The tax base of a cash-flow corporation income tax would include all cash receipts minus all cash expenditures, with expenditures including the purchase price of all investment goods but not interest expenses. Under this system, 100-per-cent of the costs of an investment would be deductible in the year of acquisition so that neither knowledge of the "true" depreciation rate nor indexation of the capital consumption allowance would be necessary.

The statutory tax rate under the cash-flow system would be uniform; that is, there would be no special rates for manufacturing and processing, or for small businesses. In addition, a cash-flow corporation tax would tax only "pure" profits – that is, receipts minus all costs of production, including all financing costs (debt financing plus what the owner's equity would have earned had it been lent on the capital market). The advantage of a tax on pure profits is that it does not distort the economic decisions of business. Moreover, by excluding financial costs from the base there is the second advantage that there would be no need to integrate this type of corporate tax with personal taxation.

The Present Tax System

Before we consider the main features of Canada's existing system of taxing capital income, it is useful to examine the contribution of different taxes to total tax revenue. In 1985, the total tax revenues collected by the federal, provincial, and local governments amounted to $158.3 billion, or 33.2 per cent of gross domestic product (GDP). This vast amount of revenue was collected through a large number of different taxes, grouped for our purposes under seven main headings in Table 2-1. As the table shows, personal income taxes provided the

Table 2-1

Government Revenues,[1] by Level of Government, Canada, 1985

	All levels		Federal		Provincial		Local	
	($ millions)	(Per cent)	($ millions)	(Per cent)	($ millions)	(Per cent)	($ millions)	(Per cent)
Personal income tax	54,567	34.5	32,124	41.9	22,443	35.0	...	...
Property tax	14,730	9.3	...	...	250	0.4	14,480	82.8
Resource taxes	11,387	7.2	4,179	5.4	7,208	11.2	...	...
Sales and excise taxes	36,250	22.9	16,146	21.1	19,916	31.1	188	1.1
Social security contributions	17,050	10.8	12,800	16.7	4,250	6.6	...	...
Corporate income tax	13,456	8.5	9,093	13.0	3,463	5.4	...	...
Other taxes and revenues	10,826	6.8	1,454	1.9	6,554	10.2	2,818	16.1
Total revenues	158,266	100.0	76,696	100.0	64,084	100.0	17,486	100.0

[1] Excluding intergovernmental transfers, investment income (except royalties), and contributions to public service pension plans.

SOURCE Based on data from Statistics Canada.

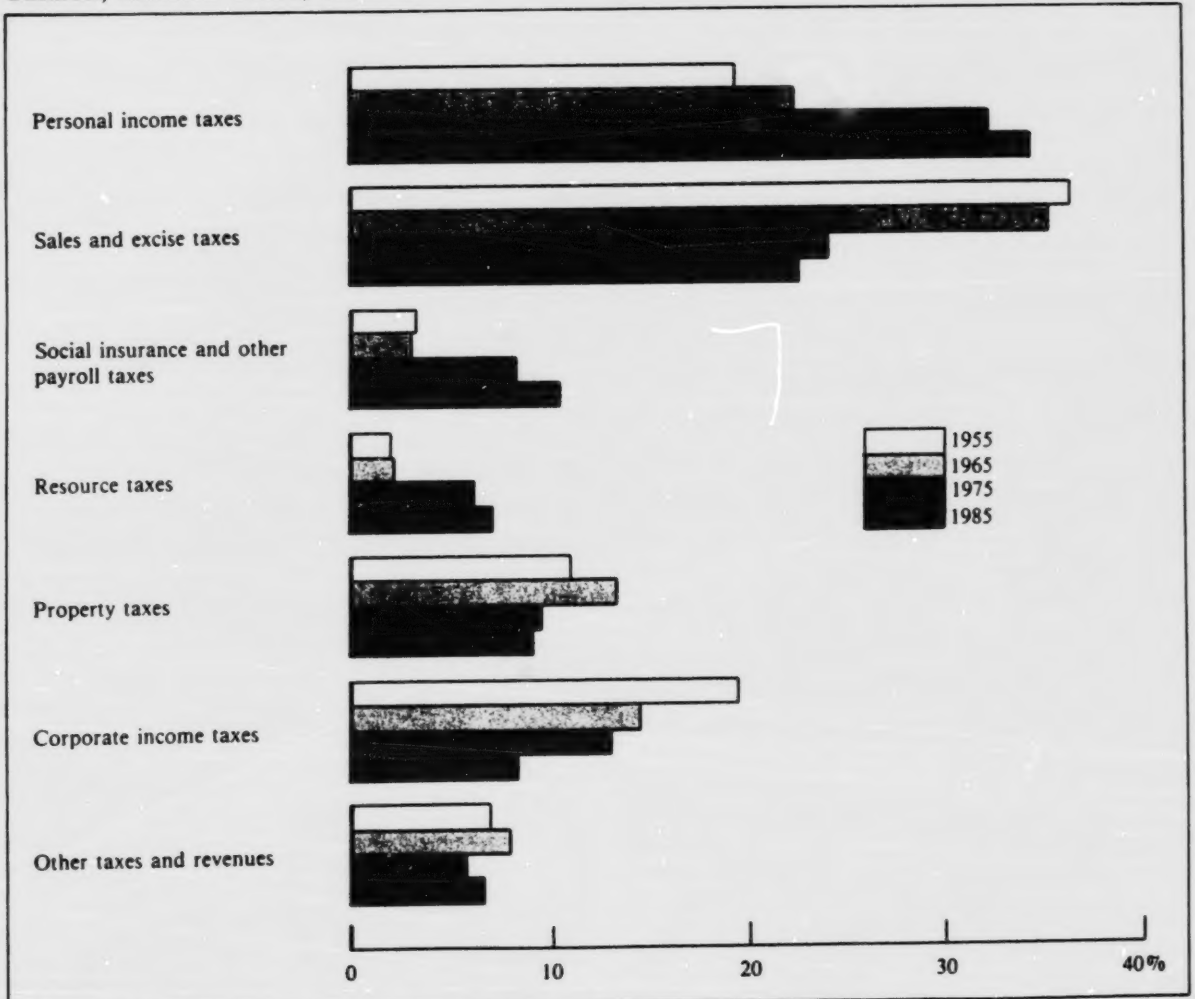
single largest share of the total revenue raised, followed by sales and excise taxes and by social insurance and other payroll taxes. Property taxes, corporate income taxes, and resource taxes each provided less than 10 per cent of total tax revenue.

It was not always so. As Chart 2-1 indicates, sales and excise taxes were the most important source of revenue a generation ago. They were followed by corporate income taxes; and personal income taxes were in third place. Social insurance and other payroll taxes were much less significant than they are now, and resource taxes were negligible. Clearly there has been a major shift in the way in which Canadians finance the services supplied by government.

The remainder of the chapter will discuss the collection of the main groups of taxes in Canada, roughly

Chart 2-1

Sources of Government Revenue (All Levels) as a Proportion of Total,[1] Canada, Selected Years, 1955-85



[1] Excluding intergovernmental transfers, investment income (except royalties), and contributions to public service pension plans.

SOURCE Based on data from Statistics Canada.

in order of their complexity, starting with the corporate income tax.

The Corporate Income Tax

Our description of the Canadian corporate income tax will discuss in turn the tax base (what is taxed), the statutory tax rates applied to that base, and tax credits; then we shall deal with other relevant features of the corporate tax system.

The Tax Base

The federal *Income Tax Act* taxes two kinds of business income. *Active* business income is the net revenue derived from production and sales; *nonactive* business income arises from investments made by a firm. We shall concentrate here on the procedures for taxing active business income.[2]

Active business income is the difference between the revenues and the costs of a firm, as defined by the *Income Tax Act*. Revenues arise from the sale of goods and services, are taxed in the year they accrue, and include sales billed but as yet unpaid (accounts receivable). Farmers, fishermen, and, in certain circumstances, professionals are taxed on a cash basis; that is, they can exclude accounts receivable from revenues. The definition of costs is more complicated. Current costs - such as wages and salaries, fuel and material costs, and rents - are deductible in the year in which they are incurred. Accounts payable are deductible as well. The complications arise in the definition of capital costs - that is, the costs of assets that produce income over a number of years, such as machinery, buildings, land, and inventories. To allow for the changing value of such assets, the tax system builds in special provisions for depreciation, inventories, and interest costs, as outlined below. Cost deductions of special interest to resource industries are discussed later in the chapter.

Depreciation — Machinery and buildings used in productive activity suffer from wear and tear and from economic obsolescence; consequently, the calculation of taxable income permits the deduction from revenue of the costs of capital consumption, or depreciation. Since it is difficult to estimate the true economic depreciation of a specific capital item, tax legislation contents itself with prescribing depreciation rates and methods (straight-line, declining balance, and so on) for broad classes of capital goods.

Depreciation for tax purposes is often considerably faster than economic depreciation - a circumstance that can have significant consequences for a firm's tax liability. Assume, for example, that the economic life of a capital item is 10 years and that its value declines linearly - that is, by 10 per cent per year. Assume also that the tax laws permit linear depreciation of 20 per cent per year. By the end of 10 years, both tax depreciation and economic depreciation will be zero. During the first five years, however, the firm can claim more depreciation and pay less tax than it would if tax depreciation and economic depreciation were identical; but during the second five years it can claim less depreciation and must pay more taxes. The total amount of taxes would be the same if they were levied over the economic life of the asset (assuming a level revenue flow and an absence of inflation). Consequently, because it postpones the tax, accelerated depreciation is equivalent to an interest-free loan from the government to the firm. Thus accelerated depreciation reduces the tax rate and provides an incentive to investment. The value of this incentive increases with the tax rate, the rate of depreciation, and the economic life of the asset.

In general, tax depreciation is more accelerated for machinery than it is for buildings. Thus Class 29 assets (manufacturing equipment, oil and water storage tanks, power-operated lift equipment, and electrical operating equipment) can be written off in only three years, even though the estimated economic life of assets in this class is over 18 years.[3] And whereas for tax purposes buildings can be written off in 10 to 25 years, depending on the structure, their economic life is usually about 40 years. Land and inventories are classified as nondepreciating assets.

Tax depreciation, or the capital cost allowance (CCA), is based on the acquisition price of an asset. In inflationary times, however, even complete recovery of the nominal acquisition price would not provide sufficient resources to replace the worn-out asset. One of the reasons for introducing in 1972 an accelerated depreciation period for new machinery was to counteract the errosive effect of inflation on the value of the capital cost allowance.

The current CCA is not consistent with either an income tax base or a consumption tax base. Under an indexed comprehensive-income tax system, all assets should be depreciated at economic depreciation rates that reflect replacement costs. A cash-flow corporate income system, on the other hand, would allow complete and immediate depreciation (cash expensing) of all real depreciable assets. Thus the economic life of depreciable assets would not have to be established; nor would the capital cost allowances have to be adjusted for inflation.

Inventories — The smooth operation of business requires that firms hold stocks of raw materials and intermediate goods before they are used or sold. The *Income Tax Act* values these inventories on a first-in-first-out (FIFO) basis, which means that for tax purposes the sale price of inventory is included in revenue, but the original purchase price of the oldest item of a given type held in inventory is deemed to be the cost. This arrangement causes few problems in times of price stability. In inflationary times, however, the replacement price of inventory may be considerably higher than its original acquisition price. Thus the difference between the sale price and the acquisition price contains an illusory profit, which the current statute subjects to tax. In order to mitigate the distorting effect of inflation, the 1977 federal budget introduced a 3-per-cent inventory allowance, but the 1986 budget revoked this measure.

Under an indexed comprehensive-income tax system, all costs would be calculated in real (replacement-value) terms. Inventories would enjoy complete inflation adjustment, achieved approximately by permitting last-in-first-out (LIFO) accounting instead of the currently obligatory FIFO system. A cash-flow tax system would permit cash expensing of all assets as they were acquired and would therefore eliminate the need for an inventory allowance.

Interest Cost — Although firms can deduct interest on debt from corporate income, they cannot deduct anything for the returns that they forgo by investing funds in corporate equity instead of lending them out to earn interest. This consequence of corporate taxation favours the use of debt financing even in times of stable prices. In periods of inflation, the incentive to use debt financing is greater, since, as indicated earlier, with inflation the tax-deductible interest on debt contains a partial repayment of the real principal of the debt.

Under an indexed comprehensive-income tax, only real (inflation-adjusted) interest would be tax-deductible. Under a cash-flow tax, no interest would be deductible, since firms would be able to write off investment in the year of acquisition.

Other Corporate Deductions

Several cost deductions of special interest to the resource industries will be discussed later in this chapter. The provincial corporate-income tax bases for Quebec, Ontario, and Alberta differ somewhat from the federal base, but the differences are minor.

* * *

The Statutory Tax Rates

At the present time, the statutory basic corporate-income-tax rate at the federal level is 46 per cent; however, this rate is merely the point of departure for what is in fact a fairly complex schedule of rates. Thus the basic rate is abated by 10 percentage points to make room for provincial corporate income taxes, for which the rates range from 5.5 to 16 per cent (Table 2-2). In 1986, large corporations were liable to a 5-per-cent sur-

Table 2-2

Corporate Tax Rates, Canada, 1986

	Canadian-controlled private corporations (small business rate)						Other corporations					
	Non-manufacturing			Manufacturing			Non-manufacturing			Manufacturing		
	Federal	Provincial	Total	Federal	Provincial	Total	Federal	Provincial	Total	Federal	Provincial	Total
	(Per cent)											
Newfoundland	15	10	25	10	10	20	36	16	52	30	16	46
Prince Edward Island	15	10	25	10	10	20	36	10	46	30	10	40
Nova Scotia	15	10	25	10	10	20	36	15	51	30	15	45
New Brunswick	15	0	15	10	0	10	36	15	51	30	15	45
Quebec	15	3	18	10	3	13	36	5.5	41.5	30	5.5	35.5
Ontario	15	10.5	25.5	10	10.5	20.5	36	15.5	51.5	30	14.5	44.5
Manitoba	15	10	25	10	10	20	36	16	52	30	16	46
Saskatchewan	15	10	25	10	0	10	36	16	52	30	16	46
Alberta	15	5	20	10	5	15	36	11	47	30	11	41
British Columbia	15	8	23	10	8	18	36	16	52	30	16	46

NOTE The federal rates are the statutory rates after the 10-percentage-point abatement to make room for provincial taxation.
SOURCE Data provided by the Department of Finance.

tax, which was replaced on January 1, 1987, by a 3-per-cent surtax on all corporate income. The federal basic rate is to drop by 1 percentage point annually in 1987, 1988, and 1989, beginning on July 1, 1987.

A special, lower federal tax rate of 40 per cent, also subject to a 10-percentage-point abatement to the provinces, applies to corporate income from manufacturing and processing. This rate was introduced in the 1973 budget, which claimed that it would protect jobs, "help (manufacturing) to overcome the competitive handicap caused by the appreciation of the Canadian dollar since May 1970," and "offset the serious competitive threat posed by the substantial tax subsidies for exports made available in the past year to U.S. corporations."[4] The reference here is to the U.S. Domestic International Sales Corporation (DISC) legislation, which was established in 1971 and superseded in 1986 by the Foreign Sales Corporation (FSC) legislation. In Canada, manufacturing accounts for approximately 20 per cent of GDP, so that the special tax rate on manufacturing income is significant indeed. It has been pointed out that the manufacturing rate "is only one of many preferences for this industry that date back to the National Policy. Whether such actions have constituted 'correct' industrial policy has always been a subject for debate."[5]

The provincial statutory tax rates for income in manufacturing are the same as for that in non-manufacturing, except in Ontario, where the manufacturing rate is 1 percentage point lower than the nonmanufacturing rate.

Another reduced rate of taxation is applicable to the first $200,000 of annual income from the active business of Canadian-controlled private corporations. The federal small-business deduction reduces the federal tax rate before the 10 percentage-point abatement to 25 per cent for private nonmanufacturing corporations and to 20 per cent for private manufacturing corporations. By July 1, 1989, these rates will fall to 23 and 18 per cent, respectively. The provincial rates for nonmanufacturing firms range from 10.5 per cent in Ontario to zero in New Brunswick; the rates for manufacturing firms range from 10.5 per cent in Ontario to zero in New Brunswick and Saskatchewan.

Defenders of the small-business deduction present three arguments in its favour: small private corporations have more trouble than large ones in obtaining outside funding and must therefore rely more heavily on internally generated funds; small new businesses may be inherently more risky than big established ones; and the existence of small businesses is socially desirable.

The application of special tax rates to the income of manufacturing firms and of small businesses is discriminatory, however, and is not compatible with the uniform requirements of either the comprehensive income tax or the cash-flow corporate tax.

As for unincorporated businesses, their income tax base is the same as that of an incorporated business, but the tax is calculated by applying the proprietor's personal income tax rate.

Tax Credits

Tax credits reduce a firm's corporate tax liability and thus provide incentives to undertake specific types of economic activity.

The most important of these credits – the investment tax credit – was introduced in 1975 with the aim of stimulating investment,[6] and the legislation has since been repeatedly modified and extended. The credit is based on the value of investment made in qualified property or new machinery and equipment used in manufacturing and processing, mineral extraction, farming, fishing, logging, or grain storage. The basis of the capital cost allowance is reduced by the value of the investment tax credit, the rate of which varies with the CCA class of the investment good and the location of the investment. Slow-growth areas enjoy special high investment-tax-credit rates; the highest rate – 60 per cent of the amount invested – applies to investments in Cape Breton. The 1986 budget speech announced the phasing-out of the general investment tax credit, starting in 1987, although investment tax credits for slow-growth regions will remain in force. The investment tax credit is not compatible with either the comprehensive income tax system or the cash-flow corporate income tax.

A refundable tax credit is available for expenditure on research and development, with higher rates of refundability for the Atlantic and Gaspé regions, and with 100-per-cent refundability for current expenditure by small, Canadian-controlled private corporations.

Tax Incentives and Corporate Losses

Corporations often lack the profits necessary to take full advantage of the various statutory deductions, allowances, and tax credits available under the corporate tax system. Small, rapidly growing corporations can be particularly at a disadvantage, because they frequently have neither the profits nor the degree of diversification that would enable them to use all available deductions and credits. In the six-year period 1977-82, only 34.5 per cent of all Canadian corporations paid taxes in at least five of the six years; 22.5 per cent paid taxes in three or four years; and 43 per cent paid taxes in fewer than three years.[7] Although tax losses can be carried forward seven years (indefinitely in the case of resource industries) or back three years, this provision offers, at best, only limited relief to the corporation claiming them. In fact, deferral of deductions is the reverse of the deferral of taxes under accelerated depreciation: in carrying losses forward, a corporation is, in effect, making an interest-free loan to the government.

A variety of special measures have been introduced that allow corporations with tax losses to transfer their surplus allowances and credits to corporations or individuals who can deduct them from taxable income. These measures include partial refundability of the oil exploration tax credit, permission to use term-preferred shares and income debentures, and special provisions applicable to joint-venture partnerships and the use of flow-through shares.[8]

Average Effective Tax Rates

Since statutory tax rates depend on the nature of an industry and the size of a corporation, the tax burden can vary greatly from one investment project to another. Moreover, the investment tax credit varies with accelerated depreciation, which in turn varies with the CCA class of the asset. For that matter, the tax-reducing value of accelerated depreciation itself depends on the statutory tax rate and declines if the tax rate is lowered. It is possible, in fact, for exemptions, allowances, and tax credits to interact in such a manner that an increase in the statutory tax rate will reduce the effective tax payable. The situation is further complicated if a corporation's losses force it to postpone or forgo the advantages of tax deductions and credits. It is not surprising, in these circumstances, to find that average effective corporate-income tax rates vary widely from industry to industry, as shown in Chart 2-2. The chart averages out effective tax rates, by industry, over a 16-year period and consequently fails to show how widely rates diverged in years in which some industries had especially severe losses. Even so, the rates range from 14.1 to 33.6 per cent.

The Personal Income Tax

Individuals can derive capital income from unincorporated businesses; from investments made in financial assets, owner-occupied housing, and durable consumer goods; and from the development of knowledge and skills that lead to higher personal earnings. Capital income can take the familiar forms of unincorporated business income, interest, dividends, rents, royalties, and capital gains. It can also take the form of imputed income from owner-occupied housing and other durables, and of increases in wages and salaries that result from investment in education and training. Investment can be made, and investment income received, either by households directly or through intermediaries, including tax-exempt institutions and life insurance companies. The tax base and the tax credits vary with all these sources, forms, and channels of investment income. The tax-rate structure, however, is the same in all cases, and we shall discuss it first.

The Tax Rates

The federal personal income tax system has a progressive structure with a basic exemption and a current top basic rate of 34 per cent. The 1986 federal budget added a progressive surtax to the basic rate structure that will be 3 per cent for all individuals in 1987 and subsequent years.

All provinces except Quebec, which has its own personal income tax system, express their tax rates as a percentage of the federal basic tax. The provincial rates vary, with the consequence that in 1986 the maximum combined federal and provincial statutory rates ranged from 52.5 per cent in the Yukon to 60.3 per cent in Quebec.

The Tax Base

Under our present tax system, the tax base of unincorporated businesses is calculated the same way as the corporate tax base. It is taxed, however, at the personal income tax rate.

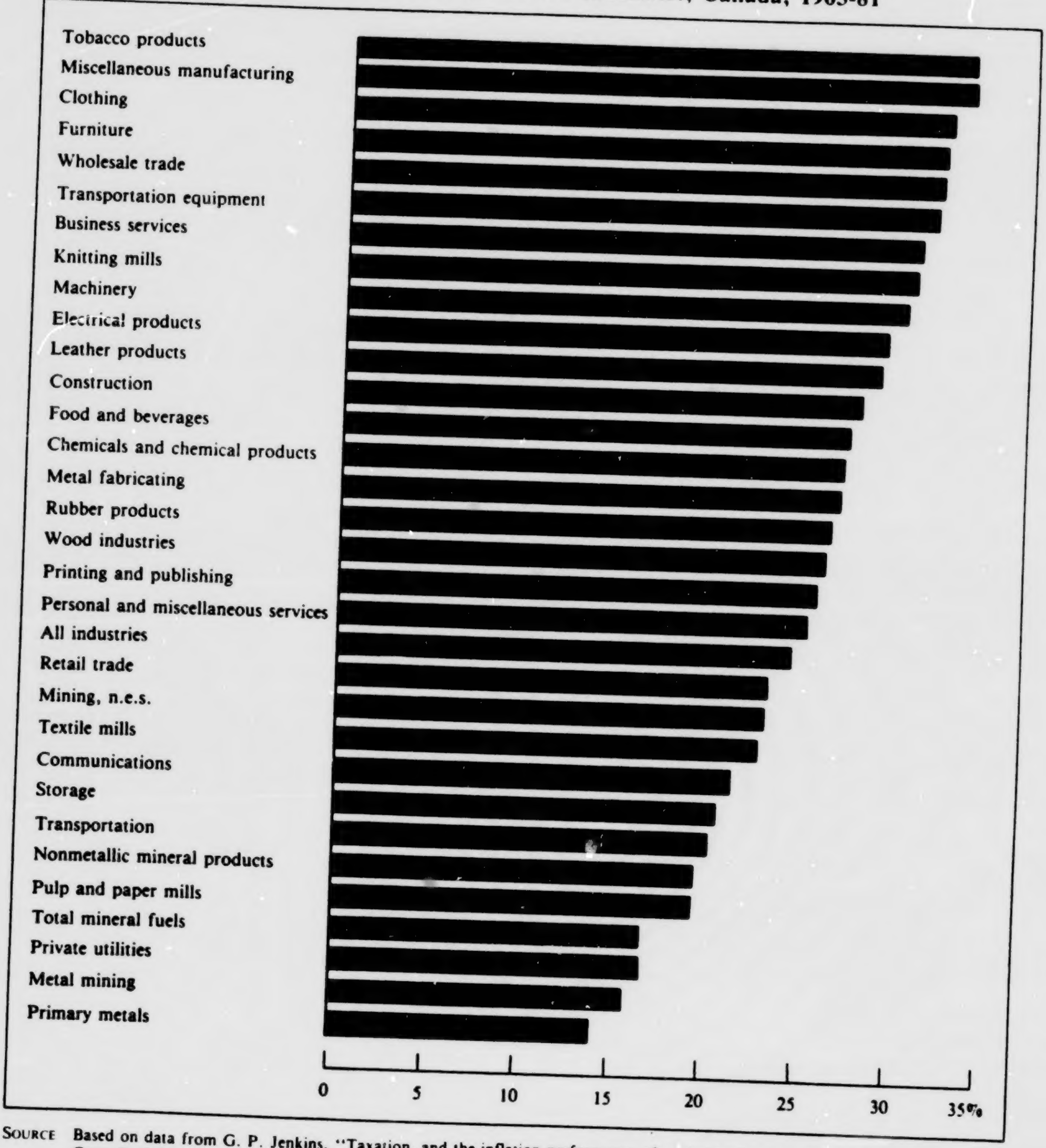
Interest income is taxable at the statutory personal income tax rate. Although the first $1,000 of investment income is tax-exempt, the exemption applies to interest income net of interest expense on borrowed funds. As mentioned above, in inflationary periods the interest rate contains a premium to compensate for the loss in purchasing power of the principal. Nevertheless, except for the first $1,000, all interest income accruing to the individual is taxable.

A true comprehensive-income tax system would tax only real income. The personal consumption tax system would not tax income from capital at all unless it was used for consumption.

Dividend income has already been taxed at the corporate level, and taxing it again at the personal level results in a total-tax (corporate plus personal) rate that is higher than the personal tax rate of the taxpayer. The Canadian tax system seeks to reduce the tax burden on dividends through a dividend gross-up and tax-credit scheme, but the total tax payable is still higher than it

Chart 2-2

Average Effective Corporate Tax Rates, Selected Industries, Canada, 1965-81



SOURCE Based on data from G. P. Jenkins, "Taxation, and the inflation performance of capital in Canada, 1965-81," Economic Council of Canada (forthcoming).

would be if there were no corporate income tax at all. Thus the integration of the dividend income is incomplete, and the higher the tax bracket of the individual taxpayer, the greater the degree of underintegration. The 1986 budget's reduction of both the gross-up and the dividend tax credit to 33.3 per cent has made the integration of dividends from large corporations even less complete.

During the period 1978-82, the fact that small corporations were taxed at a rate of only 20 or 25 per cent created a situation in which the federal corporate and personal taxation of small corporations was overintegrated. Consequently, it was advantageous for small businesses to incorporate: the owner-managers could then take out their income in the form of dividends rather than salaries, receive the dividend tax credit, and pay less in taxes than they would have paid had they not incorporated.[9] The federal government responded in 1983 by introducing a 12.5 per cent dividend distribution tax, which restored full integration in the federal taxation of these businesses. Thereupon the Ontario government reduced the provincial corporate tax rate to zero for some categories of small business, thus creating renewed overintegration in that province. The reduction of the dividend gross-up and the tax credit made the federal dividend distribution tax unnecessary, and it was abolished by the 1986 federal budget.

The imperfect integration of dividend taxation in the Canadian tax system violates the requirements of the comprehensive-income tax base. With a consumption tax base, dividends would be taxed only when consumed.

Dividend Gross-ups and Tax Credits

Profits after taxes are either distributed as dividends or retained by the firm to finance investment; thus dividends have already been taxed at the corporate level. To tax them again at the personal level would result in double taxation of this element of income. The Canadian tax system therefore seeks to reduce the tax burden on dividends received by domestic investors in Canadian-controlled corporations through a dividend gross-up and tax-credit scheme. The working of this scheme is illustrated by the example shown in the table below, which assumes that the corporation paying dividends is subject to a corporate tax rate of 46 per cent and the person receiving dividends, to a personal tax rate of 50 per cent.

In the example, which is based on the formula used before the 1986 federal budget, the amount of the dividend is "grossed up" (increased) by 50 per cent. The personal tax is calculated on the basis of the grossed-up dividend and then reduced by a dividend tax credit of 50 per cent. The resulting total tax (line 10) is considerably lower than the tax that would be payable without the gross-up and credit (line 12) but higher than the tax that would be payable if there were no corporate income tax at all (line 11); thus the integration of the dividend income is incomplete in this instance. The higher the tax bracket of the individual taxpayer relative to the corporation tax rate, the greater the degree of underintegration. The 1986 budget's reduction of both the gross-up and the dividend tax credit to 33.3 per cent has made the integration of dividends from large corporations even less complete for many investors.

Dividend Tax Credit, Large Corporations, Canada, 1985

		(Dollars)
1	Corporate income	100.00
2	Corporate income tax rate	(46%)
3	Corporate income taxes	46.00
4	Dividends paid (1) – (3)	54.00
5	Dividend gross-up (1.5 x (4))	81.00
6	Personal income tax rate	(50%)
7	Personal income tax on (5)	40.50
8	Deduct dividend tax credit (50% of (4))	27.00
9	Tax payable on dividend ((7) – (8))	13.50
10	Total taxes ((3) + (9))	59.50
11	Compare tax payable on $100 distributed free of corporate income tax	50.00
12	Total tax without gross-up and credit ((3) + (0.5 x (4))	73.00

SOURCE Based on Glenn P. Jenkins, "The role and economic implications of the Canadian dividend tax credit," Discussion Paper 307, Economic Council of Canada, Ottawa, June 1986, Table 6.

Capital gains receive preferred treatment under the existing personal tax system in three respects. First, capital gains are taxed only when they are realized (that is, when assets are sold), not as they accrue (that is, not each year as asset values rise). Second, taxpayers are required to include in their annual taxable income only one-half of the gains realized during the tax year. Third, from 1972 until 1985, the taxable half of capital gains on Canadian securities could be included in the unused portion of the $1,000 deduction for interest, dividends, and capital gains. As a result of the 1985 federal budget, however, the $1,000 deduction no longer applied to capital gains; instead, steps have been taken to phase in a cumulative lifetime exemption of $250,000 for taxable capital gains. The exemption was $10,000 and $25,000 of taxable capital gains in 1985 and 1986, respectively. Needless to say, such preferred treatment of capital gains is not consistent with a tax on comprehensive annual income; but it can be consistent with a consumption-based tax system.

One important component of capital-gains income is the rise in the value of corporation shares. Other things being equal, the retention of underdistributed profits increases the value of a firm and its shares, thus creating a capital gain for shareholders. Since the profits have already been taxed once, at the corporate level, taxing capital gains at the personal level would raise the total-tax rate above the personal-tax rate of the shareholder. Such underintegration is alleviated, and in some cases eliminated, by the measures described in the previous paragraph. No allowance is now made for the rise in the value of an asset because of inflation. This is contrary to the requirements of an ideal indexed comprehensive-income tax base.

Imputed income from owner-occupied housing and consumer durables is not taxed in Canada; nor would it be easy to devise an income tax system that could adequately perform this task. The present system treats the acquisition and consumption of houses and consumer durables in the same way as a consumption tax would treat unregistered assets; that is, it overlooks them. By leaving the imputed income from them out of the income tax base, the present system avoids the problem of determining the value of the assets for the purposes of inflation adjustment and depreciation - a problem aggravated by the fact that for many consumer durables the second-hand market is limited. It should be noted, however, that the property tax on owner-occupied housing is generally considered to be a wealth tax and, as such, can be regarded as a tax on income from capital. The property tax at the personal level amounts to approximately 1 to 1.5 per cent of the value of owner-occupied housing.

A large portion of tuition fees can be regarded as investment in human capital, since they will presumably lead to higher earnings later on. The present personal-tax system allows the deduction of tuition fees, and it taxes the increased earnings as ordinary income. This treatment is inconsistent with a comprehensive-income tax but compatible with the treatment of nonregistered assets under a consumption tax.

Registered Savings and the Quebec Stock Savings Plan — A substantial portion of personal saving in Canada is channeled into investment through tax-exempt instruments such as registered pension plans (RPPs) and registered retirement savings plans (RRSPs). In 1984, contributions to RPPs and RRSPs amounted to at least $10 billion - about 23 per cent of total personal saving ($44.3 billion).[10]

Contributions to such plans are tax-deductible in the year of contribution and taxable in the year of withdrawal (or in the year in which the pension or annuity income arising from the plan is received). Thus contributions to an RPP or RRSP result, at the very least, in a deferral of taxes that would be collected under an annual-income tax. If taxpayers will be in a lower tax bracket upon retirement than when they contributed to the RPP or RRSP, their use of these instruments will reduce their total tax liabilities. The RPP and RRSP provisions amount, in other words, to a method of do-it-yourself lifetime-income averaging that, in a system of progressive personal-income tax rates, reduces the lifetime tax burden of the individual.

Interest income derived from capital channeled through tax-exempt institutions is not eligible for the investment-income exemption of $1,000; otherwise, it is taxed in the same way as interest income received directly - that is, at the recipient's statutory rate. This is *not* true, however, of income from equity. Dividend income received through RPPs and RRSPs does not receive the advantage of the dividend gross-up and dividend-tax-credit scheme; nor do capital gains received through tax-exempt channels enjoy the effective 50-per-cent tax reduction that applies to capital gains received directly by households and the capital-gains exemption of $500,000. Thus the present system taxes interest income received through RRSPs and RPPs more lightly than it taxes equity income received through these plans.

The federal *Income Tax Act* limits a taxpayer's total annual contributions to RRSPs and RPPs. The 1985 budget limited contributions for 1986 to 18 per cent of earned income, up to a maximum of $7,500. The legislation will permit maximum annual contributions to grow to $15,500 in 1990. The exemption of savings from taxation accomplished by the RRSP and RPP provisions is not consistent with an annual-income tax. Unlimited availability of "registered saving" is an essential feature of a consumption tax, however.

Taxpayers in Quebec can contribute to a unique Stock Savings Plan, as well as to RPPs and RRSPs, with total annual contributions to all three limited to 20 per cent of income (as defined for the purposes of the plan) or $12,000, whichever is lower. Contributions to the Quebec plan take the form of purchases of new stock issues of corporations whose headquarters are in Quebec. Such purchases are tax-deductible at rates that vary from 50 to 100 per cent, depending on the size of the corporation and the type of stock (ordinary, preferred, convertible, and so on). If the investments are held for two years, they can be liquidated with no tax payable on the proceeds. The Quebec Stock Savings Plan represents more favourable treatment of savings than would occur under a consumption tax.

Life Insurance Companies — A small part of the savings of individuals is channeled to investments through the life insurance industry.[11] Life insurance contracts are of two types. One promises to pay the beneficiary a certain amount if the insured person dies before a specified date, and is a form of financial protection for beneficiaries. The other type provides the same kind of protection and will also pay the face value of the contract to those insured if they survive until the specified date. This type of contract, which contains a savings element, is said to have a cash value. Only about 17 per cent of the face value of Canadian life insurance had such cash value in 1982.[12]

Income from capital that is channeled through cash-value insurance contracts is subject to taxation at three levels: that of the business investor, that of the intermediary (the insurance company), and that of the original provider of the savings invested (usually the insured person).

The taxation of the business investor has been discussed above. Capital income of an insurance company increases its taxable income, but the company must increase its policy reserves by the same amount, to meet its obligations under its life insurance contracts. Since additions to policy reserves are deductible for tax purposes, the net result is a zero tax liability. Dividend income, like all such income paid by one corporation to another, is exempt from tax on the ground that tax has already been paid by the first corporation. Moreover, the increase in policy reserves attributable to dividend receipts is tax-deductible. Capital gains are, like all other capital gains received by businesses and individuals, taxed on realization. Fifty per cent of the gains are tax-exempt; the remainder are taxable at the statutory rate. Life insurance companies are taxed in nine provinces at the rate of 2 per cent of gross premiums, net of policy dividends paid; Newfoundland's rate is 3 per cent. This tax does not depend on the return from investment.

For the insured person, the tax rate on investment channeled through the savings component of life insurance contracts depends on how long the policy is held, on the interest rate, and on the person's statutory personal tax rate. Since the taxation of investment income is deferred until the termination of insurance contract, the effective personal tax rate is only around 17.5 per cent.[13]

The present tax treatment of saving through life insurance is not consistent with the requirements of a comprehensive-income tax, because income from "exempt" policies (which account for more than 85 per cent of all permanent life insurance contracts) is neither taxed as it accrues nor indexed for inflation.[14]

Averaging

Under a progressive income tax system, a person whose taxable income is $10,000 in one year and $30,000 in the next will pay considerably more in personal income taxes than a person whose income is $20,000 in each of the two years. The present Canadian personal tax system provides two important income-averaging mechanisms. The first applies to farmers and fishermen, who are allowed to average their incomes over periods of five consecutive years. During the first four years, they pay tax on unaveraged annual income. In the final year, they have the option of recalculating the taxes over all five years on the basis of an equal annual allocation of their income.

Forward averaging, which is available to all taxpayers, was introduced in 1982. If income in one year exceeds 110 per cent of average annual income, adjusted for inflation, for the preceding three years, taxpayers can opt for a refundable tax at the maximum personal rate on the excess. When income declines, they can carry the excess forward into their tax base, calculate tax payable at their current marginal tax rate, and claim a tax credit equal to the tax already paid. The credit itself is indexed, to maintain its value over time. In the 1984 tax year only 30,600 taxpayers (0.2 per cent of the total) used forward-averaging provisions.

Averaging income for tax purposes over several years is obviously inconsistent with the requirements of a strict *annual*-income tax base. The fact that such averaging provisions are widely advocated on grounds of equity suggests that a longer time horizon than the calendar year may be desirable in an income tax base.

Indexation

Inflation causes illusory income gains. If prices increase by 10 per cent, an increase in income from

$20,000 to $22,000 is not a true increase in real income. Given inflation and a progressive income tax system, however, a person can pay a progressively larger share of real (inflation-adjusted) income in taxes. A partial remedy for this problem is to index basic exemptions and tax brackets to the price level. This will adjust *labour* income and savings in registered accounts for inflation; however, capital held in nonregistered form will not be fully indexed because of the erosion of its purchasing power. Under the present personal tax system in Canada, the basic exemptions and tax brackets (but not the $1,000 exemptions for both investment income and pension income) are fully or partially indexed to the consumer price index. For 1986 and beyond, the rate of tax indexation will be the excess of the consumer-price-index growth rate over 3 per cent.

An obvious requirement of a comprehensive-income tax base is that real, and not inflated, income be taxed.

The Alternative Minimum Tax

One of the most publicized pieces of tax data in recent years is the number of high-income taxpayers who do not have any tax liability for the current calendar year. This situation has been ascribed to the proliferation of incentive features of the tax system ("loopholes") that allow some taxpayers to "zero out" their tax liability. Analysis shows that much of this problem is attributable to the simple variability of incomes over time: few high-income taxpayers maintain zero tax liability for more than a single calendar year.[15] Nevertheless, the perception that it is inequitable for high-income taxpayers to pay little in current taxes led to the introduction of a federal alternative minimum tax effective in the 1986 taxation year.

For the purpose of calculating this tax, the following items are *not* deductible from assessed income: RPP and RRSP contributions, the first $1,000 in investment income, the first $1,000 in pension income, the excluded one-half of capital gains less the lifetime capital-gains exemption, and a few other minor items. The following items are deductible: the first $40,000 in income, medical expenses, charitable donations, disability and education deductions, capital and non-capital losses of other years, and a few other minor items. The federal minimum personal-income tax rate is 17 per cent of taxable income. If the minimum tax is greater than the regular income tax liability, the difference is paid as an alternative minimum tax for the year. The minimum tax liability can be used as a credit in future years, if the taxpayer's regular tax liability exceeds the alternative minimum tax liability.

Commodity Taxes

Commodity taxes, otherwise known as sales and excise taxes, are levied by both the federal government and the provinces. The federal government levies the manufacturers' sales tax (MST), excise taxes and duties on alcohol and tobacco, a gasoline tax, and import duties. About half the federal commodity-tax revenue comes from the MST, and a quarter from import duties. The federal government collected $16.1 billion in commodity taxes in 1985 (see Table 2-1).

The MST base is the selling price of all goods produced in Canada or imported into Canada, but many products are exempt from the tax. An important exemption from the point of view of this study is that of production equipment; however, the definition of production equipment is rather arbitrary, and many investment goods (e.g., computers, office machines, passenger cars) are subject to the tax. Between 1979 and 1984 the general MST rate was 9 per cent. Since then, the general rate has been gradually raised to 12 per cent.

The most important provincial commodity taxes are those on retail sales, motive fuels, and tobacco, on which provincial sales and excise tax collections amounted to $19.9 billion in 1985 (see Table 2-1). Every province except Alberta imposes a tax based on retail sales, with the rates varying from 5 per cent in Saskatchewan to 12 per cent in Newfoundland. The list of commodities exempted from the tax also differs from province to province.

Like the MST, provincial retail sales taxes apply to some investment goods. Moreover, the burden of the provincial sales taxes on investment goods varies from industry to industry, very much as does the burden of the MST (Table 2-3). Total sales taxes on investment goods are by no means insignificant: they amounted to about $1.75 billion in 1981, of which 54 per cent was federal revenue and 46 per cent provincial revenue.

While a consumption tax base can be implemented through broad-based taxes such as retail sales or value-added taxes, capital inputs should not be included in the tax base. There is, of course, no rationale for broad-based sales or transaction taxes in a comprehensive-income tax base. Some forms of excise taxes are compatible with either consumption or income tax bases, however.

The Property Tax

Traditionally the property tax has been viewed as a tax on wealth held in the form of real property. This tax is paid by owners whether they occupy their prop-

Table 2-3

Sales Tax Rates as a Proportion of Gross Investment in Machinery and Equipment, Selected Industries, Canada, 1981

	Federal	Provincial	Total
		(Per cent)	
Construction	4.1	4.8	8.9
Transportation	2.0	2.4	4.4
Storage	5.6	4.8	10.3
Communications	6.2	5.5	11.8
Trade	4.3	5.3	9.6
Financial services	6.4	5.0	11.4
Commercial services	5.6	5.6	11.2
Manufacturing	2.4	1.0	3.4
Mining	1.3	1.0	2.3
All industries[1]	3.0	2.5	5.5

[1] Including other industries not mentioned above.
SOURCE Based on data from Statistics Canada.

erty or not. Unlike an income tax, it is payable even if the income from the capital is zero or negative.

As the primary independent source of revenue for municipalities, the property tax has provided about 40 per cent of total municipal revenue in Canada in recent years, including transfers from federal and provincial governments. The significance of the property tax should not be underestimated: in 1985 it yielded $14.7 billion in revenue, or 9.3 per cent of the revenue received by all levels of government. In 1980, about 45 per cent of property taxes paid were for owner-occupied housing.[16]

The property tax rate is determined by two factors: municipal expenses that will not be financed from other sources; and the assessed value of the local tax base. The tax base is the assessed value of the various property classes, which normally include industrial and commercial property, single and multiple residential property, farm land, and unimproved land. In some provinces, the tax base for business properties may include machinery and equipment.[17] Property owned by government or by educational or religious institutions is exempt from the tax, although grants by federal and provincial governments to municipalities in lieu of property taxes are common.

The basis of assessment properties in most jurisdictions is capital value.[18] For tax purposes, the assessed value of a property is generally much less than its market value. According to surveys undertaken in 1978, residential real property was assessed on average at 20 to 30 per cent of market value, commercial real property at 20 to 50 per cent, and industrial property at 50 per cent.

The property tax system is highly complex, since both provincial and municipal governments administer the tax. Besides the 10 provincial governments, there are more than 4,700 municipal bodies in Canada. In most cases, assessment has been centralized at the provincial level,[19] but each municipality is free to determine the tax rate for the properties in its jurisdiction.

The property tax rate is determined by dividing the revenue requirements of a municipality by the total value of assessed property. Many provinces allow different tax rates for the various property categories. For example, commercial and industrial properties are often taxed at a higher statutory rate than residential properties. Average effective property-tax rates (defined as the ratio of actual property taxes paid to the market value of the property) differ widely among municipalities.

Most localities levy not only a nonresidential property tax but also a separate municipal business tax, which is usually paid by the occupant of the property rather than by its owner.[20] In many jurisdictions, the tax is based on the assessed value of real property and is thus simply an extension of the real property tax. Some municipalities, however, use other bases for this tax, including the value of machinery, rental value, square footage of property occupied for business purposes, and storage capacity. The tax is levied in all provinces except Prince Edward Island and is mandatory in Newfoundland, Nova Scotia, New Brunswick, Ontario, and Saskatchewan. The business tax accounted for approximately 5 per cent of local government revenue in 1980.

An important rationale for the property tax is the desirability of local autonomy, which means that municipal governments should have control over a tax base of their own. Land and structures, because of their immobility, are the obvious choice for such a base.

Strictly speaking, under a comprehensive-income tax or a cash-flow corporate income tax, there would be no municipal property taxes levied on businesses except insofar as they were in lieu of user fees for local services.

Taxation of Resource Industries

The taxation of resource industries deserves separate discussion, because these industries have generated significant amounts of economic rent. As mentioned before, economic rent is the difference between the cost of extracting a resource and its value on world markets. In the past, most of the rent was generated by nonrenewable resources, and we shall therefore concentrate our discussion on the taxation of those resources.

Profits that originate in the resource sector are subject not only to federal and provincial taxes on corporate income but also to provincial and territorial mining taxes, royalties, and other levies designed to capture economic rent.

Federal Measures

The federal *Income Tax Act* includes a number of provisions that apply only to the taxation of the resource sector. Before 1974, resource firms were allowed to deduct provincial royalties in computing taxable income. When the federal government abolished this provision it introduced the resource allowance, which permits a firm to deduct 25 per cent of profits from resources before it deducts allowances for exploration and development expenses, earned depletion, and interest. Thus the resource allowance effectively reduces the normal corporate tax rate of 36 per cent (that is, the basic tax rate of 46 per cent less the 10-percentage-point abatement for provincial corporate taxes) to 27 per cent.

The resource allowance reduces the amount that firms can claim under the earned depletion allowance, which allows mining companies to deduct up to 25 per cent of net income from taxable income. Unlike the resource allowance, the earned depletion allowance has to be obtained by incurring eligible expenses (exploration and development expenses and the cost of acquiring machinery and equipment). Unclaimed exploration and development expenses and earned depletion can be carried forward indefinitely. By contrast, non-resource industries can carry forward unclaimed deductions and allowances for only seven years.

A number of capital-cost-allowance classes are also peculiar to the resource sector, with rates ranging from 30 to 100 per cent. In addition, resource firms can claim the investment tax credit at rates that depend on the CCA class and the location of the investment. These rates range from 7 to 20 per cent.

Some provisions of the federal income tax are specific to the oil and gas sector, as opposed to the resource sector as a whole. The most important ones are:

- A royalty credit of 25 per cent of exploration costs of $5 million or less per well incurred in the frontier regions; this credit can be claimed against royalties otherwise payable in the region.

- A partially refundable exploration tax credit of 25 per cent; this credit is applicable across Canada to exploration expenses in excess of $5 million per well and is, in the case of firms in a loss position, refundable at 40 per cent.

Provincial Measures[21]

A resource firm's taxable income for federal income tax purposes is also subject to provincial income taxes at effective rates that vary, by province, from 8 to 11 per cent. Quite apart from corporate income taxes, the provinces also levy various special taxes and royalties on rents from resources.

Mining taxes vary greatly from province to province. Ontario assesses taxable income from mining at graduated rates: average rates range from zero to 22 per cent; marginal rates, from zero to 30 per cent. Quebec levies mining taxes at a rate of 18 per cent of profits but allows a credit of $90,000, which may be carried forward to subsequent years. Both Ontario and Quebec permit depreciation of mining assets on a 30-per-cent straight-line basis, allow indefinite carry-forward of unused exploration and development expenditures, and provide processing allowances at rates that vary with the level of processing attained. Quebec also grants an allowance for exploration expenses, equal to two-thirds of the costs incurred. In 1985, Quebec introduced a negative duty scheme, which provides mining companies with refunds equal to 18 per cent of losses that result from exploration, development, or part of their capital expenditures.

Manitoba and British Columbia levy mining taxes at rates of 18 and 17.5 per cent of taxable income, respectively. In British Columbia, however, no tax is payable on the first $50,000 of income. Those types of allowances which can be claimed in both Ontario and Quebec can also be claimed in Manitoba and British Columbia. New Brunswick levies a two-tier mining tax composed of a 2-per-cent royalty and a 16-per-cent tax on profits in excess of $100,000. Newfoundland imposes a 16-per-cent tax on mining revenues. Saskatchewan levies a uranium royalty on a graduated basis and a potash reserve tax that is negotiated with the firm. The Territories collect graduated-scale royalties that are computed after deducting some costs.

In the 1960s and early 1970s, the provinces collected oil and gas royalties of between 12.5 and 16.7 per cent of the value of production. In 1974 the producing provinces introduced sliding-scale royalties, which resulted in marginal royalties of 40 to 50 per cent for old oil and gas and 30 to 40 per cent for new oil and gas. Average royalty rates are now around 13 per cent.

The importance of resource taxes to government revenues has grown rapidly over the past two decades. Table 2-4 shows dollar amounts and the percentage of federal and provincial revenues accounted for by resource taxes in 1969 (before the OPEC shock), 1981 (a year of high oil prices), and 1985. The table does not reveal the very great extent to which the provinces vary in their reliance on resource taxes; the western provinces are, of course, far more dependent on resource revenues than the eastern and central provinces.

Table 2-4

Federal and Provincial Resource Taxes, Canada, 1969, 1981, and 1985

	Federal		Provincial	
	Total	Proportion of total revenue	Total	Proportion of total revenue
	($ millions)	(Per cent)	($ millions)	(Per cent)
1969	6	0.04	484	5.6
1981	7,615	12.7	5,872	12.9
1985	4,179	5.4	7,208	11.2

NOTE Oil and gas taxes at the federal level in 1981 include: petroleum and gas revenue tax; Canadian ownership charge; petroleum compensation charge; natural gas and gas liquids tax; royalties; and oil export charge. Resource taxes at the provincial level include: royalties; mining and logging taxes; and miscellaneous taxes on natural resources. Provincial revenues exclude transfers from other levels of government.

SOURCE Calculations by the Economic Council of Canada, based on data from Statistics Canada.

Conclusion

The present corporation income tax diverges substantially from either a comprehensive-income tax base or a consumption tax base. It does so because of its various incentive provisions such as accelerated depreciation, the investment tax credit, the special statutory tax rates for manufacturing and small business, and the special deductions for the resource industries. The lack of adequate inflation-proofing in the present tax system is a further potential source of distortions, especially in the case of debt financing.

The existing personal income tax is by no means comprehensive, since it excludes imputed income from the tax base. In fact, many of its features are more consistent with a consumption tax than with an income tax. Such features include the RRSP and RPP schemes, the treatment of human capital and of imputed income from owner-occupied housing and consumer durables, the exemption from taxation of the first $1,000 of investment income and the lifetime capital-gains exemption of $500,000. The statutory limits set upon RRSP and RPP contributions, however, constitute a deviation from the principles of the consumption tax.

Altogether, we must conclude that Canada's present system of taxing income from capital is an imperfect, arbitrary, and inconsistent mixture of features. Some of these features approximate those of a neutral, integrated comprehensive-income tax; some approximate those of a cash-flow corporation-income-tax/personal-consumption-tax scheme; and some have little in common with the features of either system. The remainder of this study will examine the effects of our present tax system in detail and investigate the likely consequence of alternative tax policies.

3 The Pattern of Investment Incentives

One of the most important trends in recent Canadian tax policy has been the growing use of tax measures to encourage specific types of saving and investment, notwithstanding the recommendation by the Carter Commission, 20 years ago, that tax incentives be eliminated or reduced in order to achieve a greater degree of neutrality in the tax system.[1] The tax measures adopted have typically involved reductions in the asset lives on which capital cost allowances are based, increases in investment tax credits or deductions, or concessions for certain kinds of saving.

Although many of these and other *ad hoc* measures may have been introduced with good intentions (a desire to encourage investment in manufacturing, resource extraction, and research and development or to mitigate the interaction of inflation with an inadequately indexed tax system), their overall impact has been to deprive the tax system of any consistent rationale or coherent structure. The resulting lack of uniformity in the tax treatment of different investments is reflected in the fact that tax rates on income from investments vary enormously depending upon the asset acquired, the industry in which the asset is used, the manner in which the investment is financed, and the tax status of the investor supplying the funds. Such haphazard taxation of capital income constitutes a potentially serious source of distortion in investment and saving decisions. Furthermore, the web of tax incentives and allowances contributes to the complexity of the tax system.

In this chapter, we shall give most of our attention to the pattern of incentives in the corporate sector, since nonfinancial corporations account for nearly half of the nation's total physical capital stock (excluding land and residential structures). We shall also examine the extent to which the tax system influences the allocation of investment between the corporate and noncorporate sectors of the economy.

A Neutral Tax System

The capital income tax system most consistent with a market-oriented economy is one that is as neutral as possible in its effect on private behaviour. In other words, the tax system should seek to minimize the impact of taxes on decisions about investment, saving, and production. A neutral tax system, by levying equal effective tax rates on all investments,[2] would permit firms to produce what consumers want in ways that are relatively efficient. It would not grant special preferences to any one industry or type of business; nor would it provide incentives for firms to modify their production techniques. Again, a neutral tax system would not affect firms' decisions about the financing of investment or provide any incentive for shareholders to prefer one method of financing to another.[3] Nor would it induce one business to acquire another merely for tax reasons.

Departures from capital tax neutrality contribute to economic inefficiency in several ways. In the first place, they encourage investors to divert capital resources from their most productive uses – that is, those with the highest rates of return before taxes – to activities that are less productive but yield greater after-tax returns. The search for activities that will minimize tax liabilities is itself a source of inefficiency, since the costs of the search represent a further diversion of real resources from the production of goods and services. Finally, taxpayers' efforts to minimize their taxes oblige governments to impose legal constraints designed to prevent tax avoidance – constraints that entail real costs for both taxpayers and the tax authorities. Again, the result is diminished productivity.

As Chapter 2 has shown, the present structure of capital income taxes in Canada deviates in many ways from the ideal of neutrality. Although some deviations are clearly unintentional, others reflect the belief that those responsible for tax policy can judge better than the marketplace which goods and services should be produced, how they should be produced, and how businesses should be organized and financed.

Of course, not everyone agrees that a tax system should be neutral. Many people hold the view that the capital income tax system should be used to encourage investment in what are considered to be desirable activities, and many of the non-neutralities in the current capital tax system are reflections of this view. Even the adherents to this view may find it worthwhile, however, to consider the notion of neutrality and the nature of a tax system that seeks to achieve it. The neutral tax system provides a standard for judging the effects of non-neutralities, intentional or otherwise. Indeed, the neutrality standard can be used to evaluate not just the present tax system but also the potential benefits of tax reform, and whether reform is in the direction of neutrality or not.

Measuring the Effects of Taxes

In describing the pattern of tax rates on investment income, we shall use the concept of a *marginal effective tax rate*. This tax rate is the tax payable as a percentage of the pre-tax rate of return on a prospective marginal-investment project over its lifetime. A marginal investment is one whose returns are just sufficient to cover its costs; therefore, the marginal effective tax rate provides a useful measure of the incentive or disincentive provided by the tax system to undertake a particular project. It should not be confused with the *average effective tax rate* – that is, the ratio of observed taxes to realized capital income. Although this rate is a useful measure of the tax burden on corporate profits or of the cash flow from capital owners to government, it is a poor indicator of the incentive to invest in a new project. Inflation, for example, acts as a lump-sum tax by reducing the real value of capital cost allowances for existing capital; consequently, unanticipated inflation can increase the real tax burden on previous investments without necessarily affecting the expected tax on new investment. Moreover, the amount of taxes paid in any given year reflects the taxes on assets acquired in earlier years, and subsequent changes in tax allowances will change the relationship between the average tax rate and the expected marginal tax rate.[4]

As indicated earlier, calculations of marginal effective tax rates must take into account taxes other than simply the corporation tax. A low effective corporation-tax rate may be offset by a high effective personal-tax rate for the investor. Business property taxes, sales taxes levied on capital, and resource taxes further reduce the return to investment. Thus marginal effective total-tax rates encompass personal taxes, as well as corporation, business property, and sales taxes. Domestic investors bear all of these taxes; foreign investors bear all of them except personal taxes, which are imposed, instead, by their country of residence.

Tax Provisions as Sources of Investment Bias

The Council's estimates of marginal effective rates on corporate capital income in Canada for 1985,[5] as reported in Table 3-1, assume that the real pre-tax rate of return on all investments is 10 per cent.[6] Using a common rate of return permits a comparison of the incentives provided by the tax system for various kinds of investment projects.[7] Our calculations also assume an expected inflation rate of 4.4 per cent (the actual rate for 1984).

Personal taxes are included in the table to accommodate polar assumptions about their influence on investment in Canada's open economy. The extent of this influence depends, at least in part, on the nature of international capital flows. If capital is immobile internationally, marginal investment is necessarily financed by domestic savings, in which case the marginal effective total-tax rate provides a useful summary measure of both the incentive to save and the incentive to invest. If capital is perfectly mobile internationally, only corporate taxes (that is, corporation taxes, business property taxes, and sales taxes on capital goods) influence investment decisions, whereas corporate taxes plus personal taxes influence domestic saving decisions.

The fact that gross foreign investment is substantial in many countries, including Canada, suggests that capital is internationally mobile. On the other hand, the existence of what appears to be a very strong positive correlation between domestic saving rates and domestic investment rates in OECD countries indicates that capital may not be perfectly mobile internationally.[8] In order to allow for both assumptions about international capital mobility, we report effective *corporate-tax* rates and effective *total-tax* rates.

The most striking feature of Table 3-1 is the enormous variation in tax rates across industries, assets, methods of finance, and owners. Column 1 shows that when sales, property, corporation, and personal taxes are all taken into account, construction is the most heavily taxed industry, and manufacturing is taxed the least. Machinery is taxed far less than inventories, which in turn are taxed less than buildings. Investments financed by debt receive much more favourable tax treatment than do investments financed by new shares or retained earnings.[9] Finally, investments financed by savings channeled directly from households to corporations are taxed a great deal more than are investments financed by savings channeled indirectly to corporations through tax-exempt institutions or insurance companies.

At a more disaggregated level, our calculations show a wide range of effective tax rates – from 102 per cent on income from investments in buildings in the construction industry, financed with retained earnings owned by domestic households, to −78 per cent (that is, an effective subsidy) on investments in machinery in the manufacturing sector, financed with debt held by tax-exempt institutions.

Table 3-1

Marginal Effective Tax Rates, Canada, 1985

	Total (1)	Total (excluding sales taxes) (2)	Total (excluding property taxes) (3)	Total (excluding sales and property taxes) (4)	Corporate (excluding sales and property taxes) (5)	Personal (6)
				(Per cent)		
Industry						
Construction	52.0	43.7	45.1	36.8	9.2	33.3
Transportation	44.0	41.8	38.9	36.6	13.4	28.1
Storage	39.5	37.6	34.4	32.5	4.1	30.7
Communications	49.5	42.4	45.1	38.1	13.3	30.7
Gas distribution	43.8	43.4	41.0	40.5	17.0	28.9
Trade	42.0	39.1	36.7	33.9	6.2	30.8
Commercial services	48.5	35.8	41.4	28.6	−0.5	32.2
Manufacturing	29.3	26.0	25.9	22.6	−3.0	25.7
Asset						
Machinery	26.4	16.0	26.4	16.0	−12.2	26.2
Buildings	49.6	49.6	36.8	36.8	12.3	30.2
Inventories	43.1	43.1	43.1	43.1	19.0	29.7
Mode of finance						
Debt	19.4	14.1	13.9	8.6	−40.6	36.0
New share issues	51.7	48.2	48.0	44.4	33.2	17.7
Retained earnings	51.1	47.4	47.2	43.5	33.4	16.5
Owner						
Households	43.9	39.7	39.6	35.4	4.4	33.9
Tax-exempt institutions	10.9	5.5	5.4	−0.1	−0.1	–
Insurance companies	1.4	−4.6	−4.8	−10.8	−8.8	−1.7
Overall tax rate	38.3	34.0	33.8	29.4	3.5	28.1
Tax wedge	3.8	3.4	3.4	2.9	0.3	2.4
Weighted standard deviation	27.3	29.4	26.6	28.1	41.3	19.5

SOURCE M. J. Daly, J. Jung, and T. Schweitzer, "Toward a neutral capital income tax system," *Canadian Tax Journal* 34, no. 6 (November-December 1986), Table 8.

The Corporation Tax

As column 5 of Table 3-1 shows, the corporation tax is responsible for most of the variation in marginal effective tax rates among assets, types of finance, and industries, even though it accounts for a relatively small proportion of the total-tax wedge – that is, the difference between the before-tax and after-tax rates of return. The corporate-tax wedges, exclusive and inclusive of both property and sales taxes, are 0.3 and 1.3 percentage points, respectively, whereas the personal-tax wedge is 2.4 percentage points.

The wide variation in marginal effective corporation-tax rates is caused largely by the investment tax credit, accelerated capital cost allowances, and the tax-deductibility of interest payments, in combination with high statutory corporation-tax rates. The fact that manufacturing industries and small businesses are subject to lower statutory corporation-tax rates than non-manufacturing industries and large corporations also contributes to tax-rate variance.

The Personal Tax

Although the personal tax accounts for nearly two-thirds of the total-tax wedge, our calculations indicate that it is much less important than the corporation tax as a source of variation in marginal effective tax rates (see column 6 of Table 3-1).[10]

The personal tax system contributes to the variation in tax rates in two ways: by treating different forms of investment income differently and by treating different types of investors differently. But some of the features of the personal tax system that cause such differences mitigate some of the effects attributable to the corporation tax system. For instance, interest income received by households is taxed upon receipt and thus partially offsets the deductibility of interest payments for corporation tax purposes. Moreover, preferences for dividend income and capital gains in the personal tax system partly make up for the lack of corporate deductions for the costs of equity finance. Thus the personal tax tends to counteract the bias in favour of debt financing in the corporation tax. The result is that the variation in marginal effective tax rates attributable to both the personal tax and the corporation tax (28.1 per cent) is substantially less than the variation attributable to the corporation tax alone (41.3 per cent).

Sales Taxes

A comparison of columns 1 and 2 in Table 3-1 reveals that the federal and provincial sales taxes levied on purchases of capital goods are borne entirely by machinery,[11] with the commercial services, communications, and construction industries being the most affected. Adding sales taxes raises the marginal effective tax rate on income from investments in machinery to 26.4 per cent from 16.0 per cent, thereby bringing it somewhat more into line with the rates on income from investments in buildings and inventories. Hence the main effect of sales taxes is to offset partially the preferential treatment accorded to machinery by the corporation tax through accelerated depreciation allowances. When sales taxes are added to corporation, business property, and personal taxes, the variation in marginal effective tax rates, as measured by the standard deviation, drops slightly from 29.4 to 27.3 per cent. It follows that eliminating capital expenditures from existing federal and provincial sales tax bases, or replacing sales taxes with a value-added tax or a business transfer tax that exempted capital inputs, would increase the variation in marginal effective tax rates unless the capital cost allowances now granted to machinery were reduced.

Business Property Taxes

A comparison of columns 1 and 3 of Table 3-1 shows that municipal business-property taxes increase the marginal effective tax rate on buildings relative to machinery and inventories. Again, commercial services and construction are the industries most affected. Consequently, when we add business property taxes to corporation, sales, and personal taxes, the variation in effective tax rates rises slightly, from 26.6 to 27.3 per cent.

Inflation

Inflation has important but conflicting effects on marginal effective tax rates. Although the net effect of inflation is to increase overall effective rates, in some circumstances it decreases them. The result of these contradictory tendencies is a broadening of the range of variation in effective rates – a consequence that may increase the distortion of investment decisions by taxes.

The tendency of inflation to increase the variation in marginal effective tax rates is especially pronounced in corporate taxation. As inflation erodes the real value of capital cost allowances, for instance, it tends to increase marginal effective corporation-tax rates on depreciable capital such as machinery and buildings. In addition, inflation tends to increase the nominal value of inventories. Because firms must use first-in-first-out (FIFO) inventory accounting for tax purposes, the difference between the current sales price and the acquisition cost of inventories represents taxable profits. Thus inflation tends to increase nominal taxable profits and, consequently, the marginal effective corporation-tax rate. As partial compensation, firms were formerly permitted an inventory allowance of 3 per cent, but this allowance was withdrawn by the February 1986 federal budget.

As an offset, inflation increases nominal interest rates and hence interest payments on corporate debt. Since interest payments are deductible from taxable income, inflation decreases corporation taxes paid on debt-financed investments. At the same time, however, inflation tends to increase nominal interest receipts, resulting in payment of higher personal taxes. The two effects are not equal, however. Averaged over all investors, the marginal personal-tax rate on interest income is approximately 27 per cent,[12] whereas an averaging of statutory corporation-tax rates (taking into account the special rates for manufacturing and small business, as well as the different provincial rates), shows a range of 32.38 to 48.12 per cent industry by industry. The end result is encouragement for investments financed by debt rather than by new share issues or retained earnings.[13]

Marginal effective tax rates under various expected inflation rates are reported in Tables 3-2 and 3-3. The tax rates in the zero-inflation columns would obtain if the existing tax system were fully indexed.[14] With inflation, marginal effective *corporate-tax* rates on machinery and buildings decline, whereas tax rates on inventories increase. Tax rates on debt-financed investment decline with inflation, while those on equity-financed investments increase. In all industries except construction, marginal effective corporate-tax rates decline as inflation rises.

Table 3-2

Marginal Effective Corporate Tax Rates[1] under Various Inflation Assumptions

	Expected inflation rate		
	0 per cent	4.4 per cent	10 per cent
Industry			
Construction	26.8	28.0	28.4
Transportation	25.2	22.2	14.5
Storage	20.8	12.7	4.3
Communications	31.7	27.0	15.4
Gas distribution	25.5	20.9	10.7
Trade	21.6	16.2	17.8
Commercial services	28.3	24.1	15.9
Manufacturing	9.2	4.9	1.7
Asset			
Machinery	4.6	0.2	-7.5
Buildings	32.4	27.7	17.2
Inventories	22.1	19.0	31.4
Method of finance			
Debt	-6.4	-25.9	-48.9
New share issues	35.2	41.3	49.9
Retained earnings	35.2	41.4	50.0
Owner			
Households	19.0	15.1	11.3
Tax-exempt institutions	16.4	10.9	5.3
Insurance companies	11.5	3.0	-6.4
Overall tax rate	18.4	14.2	10.0
Weighted standard deviation	28.2	39.4	55.2

[1] These rates encompass corporation taxes, business property taxes, and sales taxes.

SOURCE Based on a model used in Daly, Jung, and Schweitzer, "Toward a neutral capital income tax."

Table 3-3

Marginal Effective Total Tax Rates[1] under Various Inflation Assumptions

	Expected inflation rate		
	0 per cent	4.4 per cent	10 per cent
Industry			
Construction	42.4	52.0	62.9
Transportation	39.3	44.0	46.2
Storage	37.4	39.5	43.0
Communications	45.4	49.5	49.3
Gas distribution	40.0	43.8	44.3
Trade	38.0	42.0	53.6
Commercial services	43.4	48.5	52.3
Manufacturing	25.8	29.3	35.1
Asset			
Machinery	22.6	26.4	28.9
Buildings	45.7	49.6	50.0
Inventories	37.8	43.1	63.0
Method of finance			
Debt	22.0	19.4	17.5
New share issues	41.8	51.7	65.1
Retained earnings	42.6	51.1	61.6
Owner			
Households	37.7	43.9	52.0
Tax-exempt institutions	16.4	10.9	5.3
Insurance companies	11.4	1.4	-10.7
Overall tax rate	34.2	38.3	44.0
Weighted standard deviation	20.7	27.3	36.9

[1] These rates encompass both personal taxes and corporate taxes (i.e., corporation, business property, and sales taxes).

SOURCE Based on a model used in Daly, Jung, and Schweitzer, "Toward a neutral capital income tax."

Marginal effective *personal-tax* rates tend to increase with inflation unless investments are channeled through life insurance companies or tax-exempt institutions. The former receive a slight subsidy, which rises with inflation; the latter are, of course, not subject to personal taxes. Table 3-3, which takes the corporate and personal tax systems together, shows that inflation increases marginal effective *total-tax* rates for households, all industries, all types of assets, and all types of finance except debt. As shown in Chart 3-1, the net result is that inflation increases the overall marginal effective tax rate. For example, the rate for the corporate sector as a whole rises from 34.2 per cent with zero inflation to 44.0 per cent if inflation is expected to remain at 10 per cent.

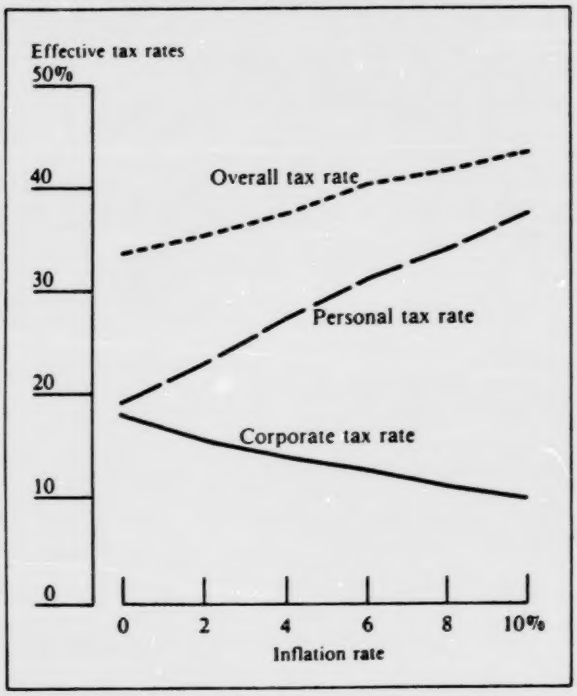
What is more important in the present context, however, is the fact that inflation increases the rate in some cases and decreases it in others, thereby increasing the variation in rates. Although inflation has contributed less to the variation than the investment tax credit and accelerated capital cost allowances, it should be borne in mind that one factor behind the enhancement of these incentives during the 1970s and early 1980s was a desire to counteract inflation's adverse impact on corporate cash flows.[15] Thus *ad hoc* tax-policy responses to inflation, as well as inflation itself, have contributed to the wide variation in marginal effective tax rates.

Taxation and the Resource Sector

Private investment in the resource sector (agriculture, fishing, forestry, mining, and oil extraction) accounts for nearly 20 per cent of total investment in Canada. Because of the host of special taxes, royalties, allowances, and exemptions, which vary from province to province and for each primary industry, it would have been far too complicated to compute marginal effec-

Chart 3-1

The Impact of Inflation on Effective Tax Rates, Canada, 1985



SOURCE Based on a model used in M. J. Daly, J. Jung, and T. Schweitzer, "Toward a neutral capital income tax system," *Canadian Tax Journal* 34, no. 6 (November-December 1986).

tive tax rates for the sector as a whole. It is clear, however, that intersectoral variation in tax rates would be far greater if the resource industries were included with the other industrial sectors, given the special tax concessions accorded to investment in resource exploration, development, and processing.[16]

The preferential tax treatment of certain types of investment in the resource sector means that marginal effective tax rates vary more within the resource sector than they do within the non-resource sectors. For instance, according to a recent study of the mining industry, which took into account provincial mining taxes and royalties, marginal effective tax rates are negative for new investment in both exploration and development activities and processing.[17] The resulting effective subsidy for exploration and development arises because investors can immediately deduct the costs of investment, earned depletion and processing allowances. The subsidy for processing results from earned depletion and processing allowances.

A similar situation appears to exist in the oil industry. A Council study of the oil industry in Alberta indicates that when federal and provincial corporation taxes, royalties, and incentive payments were all taken into account, investments in the form of depletable assets and new investments associated with exploration, development, and extraction were all effectively subsidized. Consequently, the marginal effective corporate-tax rate (excluding business property taxes and sales taxes) for the Alberta oil and gas industry as a whole was −30 per cent in 1984, and the marginal effective total-tax rate (excluding business property taxes and sales taxes but including personal taxes) was 9.5 per cent.[18] A comparison of these tax rates with the equivalent rates for other industries, which are reported in columns 4 and 5 of Table 3-1, reveals that the Alberta oil and gas industry is accorded more favourable tax treatment than the non-resource industries.

These findings suggest that the capital tax system is biased in favour of investment in the resource sector of the economy.

Taxation and Residential Housing

The tax system can also distort the allocation of capital between the industrial sector and residential housing, which constitutes roughly 20 per cent of the nation's reproducible capital stock. Even for residential housing, the taxation of investment income is far from uniform, as owner-occupied housing is taxed quite differently from rental housing.

Owner-Occupied Housing

Owner-occupied housing, which accounts for just over two-thirds of the residential housing stock in Canada, enjoys favourable tax treatment relative to investment in rental housing and in the industrial sector. The imputed income derived from home ownership (that is, the rental value) is not subject to tax, nor are capital gains realized upon the sale of the taxpayer's principal residence. Local property-tax rates are lower for residential housing than for nonresidential structures. On the other hand, the interest received on funds channeled through financial institutions to finance mortgages is subject to personal tax, whereas mortgage interest payments are nondeductible.

According to our estimates, the overall marginal effective tax rate associated with investment in owner-occupied housing is approximately 21.4 per cent, inclusive of sales taxes, and 18.0 per cent, exclusive of sales taxes.[19] Judging from columns 1 and 2 of Table 3-1, these figures are not much out of line with the tax rates on investments in machinery in the corporate sector but far below the tax rates on corporate investments in buildings and inventories. Consequently, the existing tax system creates a strong incentive to invest in owner-occupied housing and machinery rather than in buildings and inventories.

Rental Housing

As regards income from investment in rental housing, marginal effective tax rates are much higher than those applicable to owner-occupied housing. According to our calculations, the marginal effective tax rate on income from investment in rental housing is 44.7 per cent when sales taxes on construction materials are included and 41.1 per cent when they are excluded.[20] Although these tax rates are considerably higher than those levied on income from investment in machinery in the corporate sector, they are not much out of line with the tax rates on income from investments in buildings and inventories in the corporate sector (see columns 1 and 2 of Table 3-1).

Taxation and the Firm

Financing Decisions

The impact of the tax system on the financial structure of firms may distort investment decisions in ways that are not fully captured in the Council's simulations. Because the costs of debt finance - that is, interest payments - are deductible for corporation tax purposes and the costs of equity finance are not, firms have an incentive to finance investments with debt rather than with equity - a practice that increases the risk of bankruptcy. The advantage accorded to debt finance is partially offset by the fact that interest income is taxed more heavily than equity income at the personal level, owing to the preferential treatment of capital gains and the dividend tax credit. Of course, if the cost of funds is set on international capital markets, then Canada's personal tax system will not affect firms' financing decisions.

In fact, empirical evidence from Council research suggests that if there are any effects of the tax system on firms' financial decisions, they are minor. One Council study finds that an increase of 1 percentage point in the statutory corporation-tax rate raises the debt/equity ratio by three-fourths of a percentage point;[21] another finds no strong evidence that the tax system affects the debt/equity ratios of firms.[22]

Special Case of Nontaxpaying Corporations

The foregoing estimates of marginal effective tax rates assume that firms have sufficient taxable profits to enable them to claim all pertinent tax allowances - or, equivalently, that the tax system is symmetrical in the sense that it makes refunds on losses at the same rate as it taxes profits. In fact, a large proportion of firms cannot take full advantage of all the tax allowances for which they qualify. From 1977 to 1982, for example, almost half of all investment was undertaken by companies that were rarely able to use their capital cost allowances, investment tax credits, and other deductions;[23] in 1983, 59 per cent of all corporations had no tax liability whatsoever.[24] Although unused tax losses can, of course, be carried forward (and backward), the period over which losses can be spread is limited. Moreover, the present value of these tax allowances is reduced by the fact that firms must forgo interest on losses carried forward. Consequently, the marginal effective tax rates, and thus the investment incentives, faced by many companies may be quite different from those described so far.[25]

Tax asymmetries arising from an inability to offset losses completely are particularly acute for firms that are relatively new, small, and undiversified or that reinvest a relatively large proportion of their income. Many such firms do not have enough taxable income from previous investments to claim all of the tax allowances available for present investments. Tax asymmetries of this kind are aggravated by the fact that tax incentives such as the investment tax credit and accelerated capital cost allowances are "front-loaded"; that is, the benefits from these incentives accrue in the early years of an investment's productive life. Such tax asymmetries may encourage tax-motivated mergers, since taxpaying firms that have used their credits and allowances in full can reduce their tax liabilities further by acquiring nontaxpaying firms that are unable to take advantage of the concessions available.

Integrating Corporate and Personal Taxes

The fact that interest costs but not equity costs are deductible for corporation tax purposes means that income from corporate equity is taxed twice - first at the company level and again at the personal level. The double taxation of equity income, which results in a bias in favour of debt-financed investments, is mitigated, however, by the dividend tax credit. As indicated in Chapter 2, the credit was formerly based on a dividend gross-up of 50 per cent and was therefore equivalent to one-third of grossed-up dividends. In effect, this meant that shareholders were deemed to have already paid income tax at the rate of 33.3 per cent. The 1986 federal budget reduced the gross-up from 50 per cent to 33.3 per cent, which effectively reduced the deemed tax rate to 25 per cent, effective January 1, 1987. Consequently, as far as dividend income is concerned, the corporation and personal tax systems are now fully integrated in the case of Canadian-controlled corporations subject to the small-business tax rate of 25 per cent[26] and partially integrated in the case of large taxpaying corporations. No equivalent integration is provided for capital gains. Beyond the lifetime exemption level, however, capital gains are taxed only upon realization and then at half the personal rate. In the case of unincorporated businesses, capital income is taxed only as the owner's personal income.

Unfortunately, the design of the dividend tax credit is defective in a number of respects. Unlike the dividend tax credits in the United Kingdom and France, which are tied to a corporation's actual tax payments, the Canadian credit is available to shareholders whether the corporation has paid taxes or not. This situation encourages nontaxpaying corporations to issue preferred shares - a step that provides them with a substantial amount of tax-loss refundability.[27]

One of the principal drawbacks of issuing preferred shares as a method of achieving limited tax-loss refundability is that public-sector enterprises may obtain a subsidy outside the normal budgetary appropriation process. In the late 1970s, Petro-Canada, the Canada Development Corporation, and other "taxable" Crown corporations issued preferred shares as a way of obtaining low-cost financing. By issuing preferred shares, Crown corporations can thus get a measure of tax refundability that is unwarranted, particularly where there may be little, if any, prospect of their being in a taxpaying position. Moreover, they also generally carry a government guarantee on their preferred shares, so that the normal risk associated with preferred shares is all but eliminated.[28] This in turn enables them to obtain funds at a lower-than-normal cost of debt, and the result is a misallocation of capital in favour of government-owned corporations.

In summary, although the tax system should provide some mechanism for refunding tax losses, the allocative effects of the dividend tax credit make the credit a poor instrument for this purpose.

Taxation and Risk-Taking

The degree to which the tax system provides for the offsetting of losses also affects the willingness of investors to undertake risky projects. Taxing income from capital discourages risk-taking by reducing the expected returns from risky investments, insofar as losses on such investments cannot be deducted from other income. On the other hand, Canada's tax system encourages risk-taking by reducing the variability of returns and thus the risks faced by investors. The more the government shares losses via the tax system, the greater its share of the risk and the less likely are taxes to inhibit risk-taking.

A research study prepared for the Council finds that incomplete offsetting of losses does indeed increase the cost of capital, thus discouraging investment in risky projects; this effect increases with the variability of firms' income streams. On the other hand, the risk-sharing role of taxes substantially reduces effective tax rates. The balance between these contrary effects varies from industry to industry.[29]

Corporate vs. Noncorporate Investment

Insofar as the corporate and personal income tax systems are insufficiently integrated, the corporation tax can constitute an additional burden on income received by shareholders from investments in the corporate sector. By contrast, investment income from unincorporated businesses is taxed only as the owners' personal income, giving a tax-induced incentive to invest in the noncorporate sector. Given the tendency to allocate investments in ways that will ensure equal post-tax returns from different investments, it follows that the pre-tax return on investment in the corporate sector exceeds that in the noncorporate sector. From a social viewpoint, therefore, it may be that too little capital is used in the former sector relative to the latter and that a reallocation of investment from the noncorporate to the corporate sector would increase national output.

As we pointed out in the previous section, however, only large taxpaying corporations are subject to double taxation. In the case of small corporations, corporate and personal income taxes are fully integrated, and in the case of nontaxpaying corporations, they are over-integrated. Hence the corporation tax discourages investment in the corporate sector only in the case of large taxpaying companies, presuming that corporate income taxes are borne by shareholders. But it is by no means clear that shareholders do in fact bear the burden of the corporation tax. Rather, the tax may be shifted forward onto consumers in the form of higher prices for goods and services produced by the corporate sector or shifted backward to company employees in the form of lower wages and salaries or onto suppliers in the form of lower prices for materials. If capital markets operate efficiently, the corporation tax could also be partly shifted onto owners of capital invested in unincorporated businesses.[30] Consequently, distortions in the allocation of capital between the corporate and noncorporate sectors as a result of the corporation tax are, if anything, less serious than those within the two sectors.

According to simulations conducted by the Council that take into account corporation, property, sales, personal, and other taxes, the lack of uniformity in the average tax rates for capital income in the economy as a whole costs Canadians as much as 1 per cent of GNP annually.[31] In other words, if federal, provincial, and municipal governments levied exactly the same tax rates on all industries, including those in the resource sector and owner-occupied housing, GNP would be 1 per cent higher than it is at present.

Are Incentives Efficient?

The primary purpose of this chapter has been to focus attention on the uneven tax treatment of capital income and the resulting pattern of investment incentives, as reflected in marginal effective tax rates. According to our estimates, effective tax rates (taking into account corporation, business property, sales, and personal taxes) on income from broad classes of investments range from 1 to 52 per cent, depending on the industry in which the investment occurs, the type of capital, the manner in which the investment is financed, and the tax status of the investor supplying the funds (see column 1 of Table 3-1). In particular, industries such as manufacturing, which invest relatively heavily in machinery and equipment, receive more generous investment tax credits and capital cost allowances than less capital-intensive industries. Highly leveraged firms obtain greater interest deductions than firms whose investments are financed with a relatively large proportion of equity. Small businesses and manufacturing firms are subject to lower statutory corporation tax rates than large businesses and firms not involved in manufacturing. Moreover, income from investments financed with debt held by tax-exempt institutions is not taxed at all, whereas corporate dividends received by households may be taxed twice because the corporation and personal tax systems are not fully integrated. Finally, firms that are sometimes (or always) in a nontaxpaying position are at a disadvantage compared with firms that are always taxpaying, since they cannot fully use the credits, deductions, and allowances provided by the tax system.

Although many incentives were introduced with the best of intentions, it is doubtful whether their overall effect - an enormous variation in effective tax rates - was ever intended by anyone. As we have shown, the variation in tax rates is a major source of inefficiency in the economy, since it encourages the allocation of capital to investments that will maximize after-tax returns rather than to those that will maximize productivity. After all, a dollar saved in taxes is worth just as much to a firm or its shareholders as a dollar earned through productive activity. Tax concessions not only distort investment and savings decisions throughout the economy, thereby reducing national output; they also contribute to the complexity of the tax system and undermine taxpayers' confidence in the system's fairness.

Finally, one may question the efficacy of many of the incentives in achieving their stated objectives. For instance, two principal arguments are advanced in favour of taxing machinery at rates lower than those for buildings and inventories. The first argument - that investment in machinery enhances productivity more than does investment in buildings or inventories - makes little sense. If the productivity - and therefore presumably the profitability - of machinery were higher than the productivity of other types of capital, that advantage would surely be recognized by the market, in which case preferential tax treatment for machinery would not be needed. By preventing the market from rendering its verdict, current tax breaks for machinery diminish the efficiency of our economy.

The second argument is that preferential treatment of certain types of capital is required to improve the competitiveness of Canadian firms that trade in international markets, particularly those engaged in manufacturing and resource extraction. It is questionable, however, whether advantages to firms trading internationally should be provided at the expense of the efficient allocation of the nation's capital stock. If goods and services produced in Canada are currently at a competitive disadvantage compared with those produced abroad, then the appropriate response is either to induce Canadian firms to improve their productivity (through a more efficient allocation of resources) or to lower the international exchange rate for the Canadian dollar. It is interesting in this respect that the variation in effective tax rates in manufacturing - a sector that the existing tax system is designed to favour - is just as wide as it is in the economy as a whole.[32]

The absurdity of the present situation is illustrated by the fact that the federal government has introduced additional tax incentives - notably "flow-through" shares - to assist the many firms that are unable to take full advantage of the allowances, credits, and deductions already in place. Flow-through shares are essentially designed to help those firms make their unused tax deductions available to private investors. Not only does this scheme amount to an implicit recognition of the ineffectiveness of the original investment incentives; it is also an extremely inefficient method of assisting firms to take advantage of these tax incentives.[33] On the other hand, the practice of piling incentive upon incentive has also resulted in the recent enactment of a minimum personal income tax, which is presumably intended to restrict investors' ability to take full advantage of the tax allowances available. A further anomaly arises from the fact that incentives to use capital lead to a substitution for other inputs, notably labour, and yet many tax incentives are linked to unemployment rates; in other words, the largest subsidies encouraging the use of capital instead of labour are provided for regions experiencing the highest unemployment rates.

There are, of course, occasions when subsidies to particular industries and types of activities may be warranted.[34] Such consideration, however, does not justify poorly targeted tax concessions to broad categories of investments. Instead, for specific firms, industries, activities, and regions that are deemed to require assistance, government should provide explicit subsidies, which are more controllable through annual budgetary review than are hidden subsidies provided through the tax system. A case can also be made for attempting to increase investment by offering *uniform* incentives.[35] But no respectable case can be made for distorting the allocation of capital in favour of low-productivity uses.

The haphazard tax treatment of capital income in Canada has become a major concern. As a result, the federal Department of Finance is in the process of implementing some important changes in the corporation tax. These changes, which involve a broadening of the corporation tax base through the elimination or reduction of certain incentives and allowances, and cuts in statutory corporation-tax rates, are expected to reduce the variation in marginal effective tax rates considerably and thus lead to a more efficient allocation of investment in the economy. In addition, the federal government is contemplating the replacement of its manufacturers' sales tax with a business transfer tax that would exempt capital inputs.

Other changes to the tax system are also being considered. Indeed, what is required is a complete overhaul of the entire capital tax system - an overhaul that would adhere to a set of consistent principles and involve not just the federal government but provincial and, we hope, municipal governments as well.

Conclusions

In this chapter, we have distilled the discussion of rates and tax rules in Chapter 2 to calculations of marginal effective tax rates. Marginal effective tax rates measure the overall impact of taxes on both the allocation of capital among different uses and the allocation of saving among different sorts of investments. We have focused on the *allocative* tax-related distortions that affect the pattern of investment and saving in the economy at any point in time. This is not the end of the story, however. Further distortions arise that are of an *intertemporal* or time-related nature, because they affect aggregate levels of saving and capital accumulation over time. These intertemporal distortions will be discussed in the next chapter.

4 Taxation of Saving and Capital Accumulation

Chapter 3 showed that the impact of the current tax system on investment decisions can lead to misallocations of capital among its different *uses* at one point in time. By the same token, the impact of the tax system on saving decisions can lead to misallocations of resources between present and future consumption. By affecting present saving, investment, and capital accumulation, tax provisions also affect the level of output and the distribution of income in the future. In this chapter, our purpose is to assess the "intertemporal" effects on efficiency and equity of alternative methods of capital taxation.

In such an assessment, it is important to look at the profiles of income and its components over the lifetime of individuals. As we shall show, earnings, income, consumption, and savings vary from age group to age group in predictable patterns, and a change in the method of taxation will affect those patterns in predictable ways.

This chapter will also present estimates of the behavioral responses of individuals to changes in taxation. Such responses are fundamental to the assessment of the efficiency and distributional, or equity, effects of any method of taxation. As discussed earlier, the efficiency costs of taxation are not the amount of revenue raised by a tax but, rather, the additional costs on society that arise from changes in behaviour caused by the tax. Most taxes impose an "excess burden" on individuals, which is measured by the difference between the behavioural effects they induce and those which would be observed under a lump-sum tax that raised the same amount of revenue.[1] Thus tax-induced behavioural changes provide a guide to the comparative efficiency of alternative methods of taxation.

The effects of taxation over time are equally important to our assessment. For instance, if individuals respond to taxes on their savings by reducing the amount they save, then *not* taxing savings may substantially increase investment and thus increase the amount of capital with which labour has to work – and hence raise productivity and wages. In other words, taxing savings and the returns to savings could well result in slower growth and a smaller economic pie than if they were not taxed at all.

Saving in Canada

In the three decades from 1950 to 1980, net domestic saving as a fraction of Canada's net national product (NNP) was fairly constant, remaining at around 12 per cent (Table 4-1). Its composition over the period changed, however, as private saving increased to offset a decline in government saving. In the first half of the 1980s, private saving continued to increase, but not by enough to offset the dramatic drop in government saving. As a result of government dissaving, the ratio of net domestic saving to NNP fell by 2 percentage points. Combined with a decline in the contribution of nonresident saving amounting to 1 per cent of NNP, net national saving (the sum of domestic and net foreign saving) – and, thereby, capital accumulation in the Canadian economy – dropped by 3 percentage points of NNP in the first half of the 1980s compared with the previous decade.

Table 4-1

Average Net National Saving in Canada, as a Proportion of Net National Product, by Major Source, Canada, 1950-84

	1950-59	1960-69	1970-79	1980-84
		(Per cent)		
Private saving	9.2	8.3	10.5	13.8
Personal	4.8	3.9	6.6	10.9
Corporate	4.4	4.4	3.9	2.9
Government saving	2.8	3.0	1.5	−3.7
Domestic saving	12.0	11.3	12.0	10.1
Non-resident saving	2.3	1.6	1.5	0.4
National saving	14.3	12.9	13.5	10.5

Source Calculations based on data from Statistics Canada, *National Income and Expenditure Accounts*, Cat. 13-201, annually.

Private saving, which consists of personal saving, or the saving of individuals and unincorporated businesses, plus corporate saving has also changed substantially in composition over the past 35 years. In the 1950s, personal saving averaged 4.8 per cent of NNP, or 52 per cent of private saving; it now amounts to 10.9 per cent of NNP, or 79 per cent of private saving. Over the same time period, corporate saving dropped from 4.4 per cent to 2.9 per cent of NNP.

It can be argued that corporate saving is just another form of personal saving, since individuals own corporations and might be expected to see through the "corporate veil." The extent to which personal savings and corporate savings are in fact interchangeable has been investigated in a study prepared for the Council. The results indicate that an extra dollar of corporate saving would reduce personal saving by only 56 cents.[2] Evidently individuals are aware that corporations are themselves subject to failure, that corporate saving is net of corporate income tax but not of personal income tax, and that governments at any time can alter the tax treatment of corporate saving and future dividends.

Individuals save in order to achieve a more stable consumption stream than they can otherwise obtain over their lifetimes. As Figure 4-1 indicates, individuals typically save little, or even dissave (borrow), in their early earning years. In middle age, they consume less than the value of their current income in order to repay debts, such as mortgages, and to acquire a stock of financial wealth, which they will later draw down to finance retirement consumption. Individuals may also save in order to transfer wealth to other generations - for example, by means of bequests. Finally, they may save for the purpose of financing unexpected future expenditures. Given the growth of private and social insurance and capital markets, however, this precautionary motive for saving is probably less important now than it was in the past.

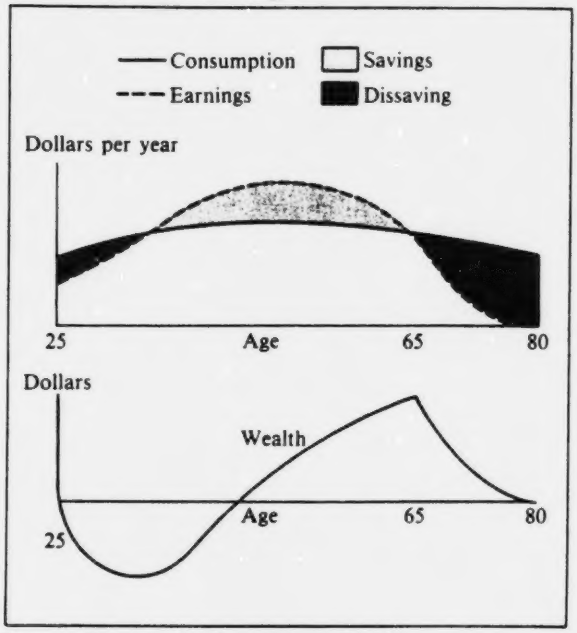
Whatever their motives, individuals can save in many different ways. They can purchase corporate stocks and bonds or government debt, deposit funds in savings institutions and mutual funds, contribute to pension funds, or buy durable goods such as housing. Each type of asset will earn a return in the form of interest income, dividends, capital gains, rents, royalties, or imputed income.

Saving is essential for the growth of the economy. Through saving, part of the gross national product is directed to investment as opposed to consumption, so that higher output levels can be maintained over time. As more of the GNP is devoted to investment, however, the part that is left for consumption may or may not be higher even though the level of output is higher. There is thus an optimal level of capital intensity beyond which there is a net cost, in terms of forgone consumption, of maintaining the level of productive capital in the economy.

The social benefit of an additional dollar saved is given by the rate of return on the investment project it will finance. The social cost is the loss in future consumption incurred in undertaking the additional saving, as given by the rate of growth of the economy. As long as there are projects available that yield a higher rate of return than the rate of growth of the economy, a policy that would increase aggregate savings will therefore contribute to increasing the sustainable level of per capita consumption or the standards of living.

Figure 4-1

Life-Cycle Pattern of Earnings, Consumption, Savings, and Wealth



SOURCE Based on data from Revenue Canada, *Taxation Statistics*, Ottawa, 1985.

It is frequently argued that Canadians save more than people in other countries so that we have no need to further increase saving. That idea however is a myth that has developed and been maintained by constant comparison with the United States only. Compared with 22 other OECD countries, (Table 4-2), Canada ranks seventeenth in terms of gross savings relative to gross domestic product. Of those countries with higher savings ratios, 13 also have higher investment rates, and 10 had higher average annual rates of growth in their real gross domestic product per capita over the period 1960-85. It is also interesting to note that 14 of the 16 higher-saving nations have lower gross domestic product per capita than Canada. Data for the United States show that the U.S. annual rate of growth in real gross domestic product per capita averaged 1 percentage point lower than ours over the 25-year period.

International comparisons such as the above are beside the point in determining whether we save too

Table 4-2

Average Gross Saving and Gross Investment as a Proportion of Gross Domestic Product, OECD Countries,[1] 1960-85

	Proportion of GDP		GDP per capita,[2] 1985	Average annual rate of growth of real GDP per capita, 1960-85
	Savings	Investment		
	(Per cent)		(Canada = 100)	(Per cent)
Japan	33.6	33.6	80.7	5.7
Switzerland	29.5	27.8	104.1	1.8
Norway	27.3	29.3	102.4	3.6
Austria	26.9	27.4	64.1	3.4
Finland	25.6	27.0	80.9	3.5
Netherlands	24.9	23.7	63.3	2.4
Germany	24.7	24.0	75.1	2.7
Portugal	24.1	26.8	14.9	4.2
Australia	24.1	26.6	72.2	2.4
Iceland	23.5	26.7	80.4	3.1
France	23.3	23.7	67.4	3.1
Italy	22.3	21.9	46.0	3.2
Spain	22.3	22.8	31.2	3.7
Greece	22.2	25.1	24.2	4.3
Sweden	21.8	22.5	88.1	2.5
New Zealand	21.6	25.3	49.5	1.5
Canada	21.6	23.3	100.0	3.0
Belgium	21.1	21.3	58.8	3.1
Denmark	20.1	22.8	83.0	2.7
United States	19.2	19.1	121.0	1.9
Ireland	19.2	24.2	37.6	2.9
United Kingdom	18.8	18.9	58.3	1.9
Turkey	17.0	19.2	7.8	3.1

1 Listed in descending order with respect to savings share of GDP; Luxembourg and Yugoslavia have been excluded.

2 Calculated in U.S. dollars, at 1985 prices and exchange rates.

SOURCE Organisation for Economic Co-operation and Development, *National Accounts of the OECD Countries: 1960-85*, vol. I (Paris: OECD, 1987).

much or too little, however. A country's saving rate is affected by a host of factors, among which are income levels, the rates of growth of population and productivity, the age structure of the population, the tax and social security systems, and intertemporal preferences of individuals. These and other relevant considerations vary enormously from country to country.

A Review of Alternative Tax Bases

Under an annual-income tax system, income from all sources, including capital income, is subject to taxation. Income is taxed when it is earned, and the returns on the portion of income that is saved reappear in the tax base as capital income in future periods. Obviously, a tax system can eliminate the extra taxation of savings by simply using a tax base that does not include capital income. It can exclude this income in two ways. First, it can exempt the returns to savings from taxation on the ground that taxes were paid on earnings before the saving decision was made. This is often referred to as the *tax-prepaid* method. In such a system, individuals do not have to report information on their saving behaviour to the tax authorities; that is, saving is "unregistered." The *cash-flow* tax system exempts the acquisition value of an asset from the tax base and taxes current consumption expenditures alone. When the asset is sold, however, its sale value (including proceeds or returns) is included in the tax base to the extent that it is used to finance expenditures. Under this method individuals pay tax on all cash receipts, less deductions for savings; that is, all saving is "registered."

Technically, as pointed out in Chapter 2, the annual-income tax base is defined as consumption plus net accretions to real wealth during the year. "Real wealth" is the purchasing power of the taxpayer's dollar wealth in terms of the ability to consume goods and services. When there is inflation, the purchasing power of the taxpayer's dollar wealth falls. Ideally, the annual-income tax base would require that such inflation-induced losses in real wealth be subtracted from dollar accretions in money wealth or, in other words, that capital income be indexed for inflation. Tax specialists see the indexation problem as one of the most severe practical problems in implementing the pure annual-income tax base. Accrual taxation of capital gains and the taxation of imputed income, which are almost equally difficult, will be discussed in Chapter 7.

Under the tax-prepaid system, there is clearly no indexation problem. Under a cash-flow system, no inflation adjustment of capital income is required because of its treatment of registered savings, as follows. The cash-flow tax base in a given year is equal to the difference between the annual-income tax base, adjusted for the inflation-induced loss in the purchasing power of all money wealth, and the change in the real net wealth of the taxpayer. The change in real net wealth is equal to the change in nominal net wealth, minus the loss in the purchasing power of the outstanding stock of wealth because of inflation. This loss in purchasing power is exactly the inflation adjustment that should be subtracted when calculating the annual-income base adjusted for capital income indexation. Hence real capital income adjusted for inflation, less the change in real wealth, is equal to capital income not adjusted for inflation, less the change in net nominal wealth; and there is no need to index the capital part of the cash-flow tax base.

In Canada, we have already moved some distance toward a mixture of the tax-prepaid and cash-flow systems of taxation. The $1,000 deduction for interest and dividend income and the tax treatment of owner-occupied housing are features of a tax-prepaid system; the provisions for holding registered saving in the form of RRSPs and RPPs are examples of a cash-flow tax treatment.

As was pointed out earlier, an individual's earnings, savings, and consumption exhibit different "age profiles." Hence the timing of taxes paid by an individual will depend on which tax base is used. Under a tax-prepaid system an individual's tax liabilities will be concentrated in the working years, whereas under a cash-flow tax system they will extend through the retirement years.

A tax base that excludes returns to saving will have different redistributive and efficiency consequences than one that includes those returns. The sections that follow examine the relative equity and efficiency merits of the annual-income, tax-prepaid, and cash-flow tax systems.

Economic Efficiency over the Long Term

As discussed earlier, a tax that distorts economic decisions in the private sector imposes an excess burden or efficiency cost over and above the amount of tax revenue levied. Not only are resources transferred from the private sector to the public sector, but in the process individuals' responses to the resulting distortions in the price system drive the economy away from the allocation of resources that would bring the greatest benefit to society as a whole. In the taxation of savings, the distortions produced in the allocation of resources through time are of primary interest.

If there is no tax on the return to saving, consumers and producers trade with the future at the same rate or price. For example, if the rate of return is 10 per cent, output worth $100 can be produced next year by sacrificing $90.91 of current resources. Put another way, the discounted social cost of producing $100 of output next year is $90.91 ($100 ÷ 1.1). By the same token, individuals can buy $100 worth of future output by forgoing $90.91 of current consumption. The discounted cost and price of future consumption are equal.

The introduction of a tax on the return to saving destroys this equality. Producers can still transform current resources into future output at the same discounted social cost, but consumers must now exchange current consumption for future consumption at a price higher than the social cost. For example, if the tax reduces the after-tax rate of return to 5 per cent, individuals will now have to forgo $95.24 of current consumption to afford $100 worth of consumption next year ($100 ÷ 1.05). Hence taxing the return to saving increases the implicit price of future consumption.

By driving a wedge between the price and the cost of future consumption, taxation of the return to saving distorts private economic decisions and imposes an additional burden (beyond the amount of taxes paid) on individuals. The example showed that when the returns to saving are taxed, the value of future consumption to individuals is greater than the cost of future output to society. Since the benefits of future consumption exceed the costs, individuals would be better off if they increased their future consumption. The excess burden of the tax on the return to saving is the opportunity cost (the difference between the discounted benefits and costs) of not consuming the additional units of future output. This excess burden exists even if saving is insensitive to changes in its after-tax rate of return – that is, even if individuals save a fixed proportion of their income, irrespective of the return they obtain on assets. In this case, where individuals devote only a fixed amount of current income to buying future consumption, an increase in the implicit price of future consumption will obviously reduce the number of future units of goods and services that they can purchase.[3] If individuals react to a fall in the after-tax rate of return by reducing their saving, however, the level of their future consumption will decline further, and the excess burden will be larger.

Equity over the Long Term

Equity criteria are concerned with how the burden of taxation is distributed among members of society. Two concepts of equity are commonly used: horizontal equity and vertical equity. The horizontal-equity principle states that people in equal positions should pay equal taxes; vertical equity refers to the appropriate pattern of unequal taxes among people in different positions.

In order to judge the horizontal equity and vertical equity of different tax systems, one must first define a standard by which the relative tax positions of individuals can be established. A convenient and widely accepted standard is the power of individuals to command goods and services over a given period. If the period considered is a year, as it often is, then the standard of comparison is annual income – or the sum of an individual's earnings, income from capital, and other receipts (such as inheritances and government transfers) during the year in question.

It is our opinion, however, that the use of annual incomes to assess the tax liabilities of individuals arises from a myopic view of what constitutes the economic power of individuals. As we shall see later, many taxpayers are subject to fluctuating incomes. Thus, in a comparison of annual incomes, a person whose annual income increases in a given year because of overtime payments may occupy the same position on the income scale as a person who has a high annual income year after year. By the same token, a long-term member of a high-income group who decides to take a year-long vacation will find himself, for that year, in a low-income group. Obviously, it would be unfair to treat this person in the same manner as a long-term member of the low-income group. It is more equitable, therefore, to measure the economic power of individuals to command goods and services over a longer period. The ideal approach is to compare individuals on the basis of their permanent, or *lifetime*, incomes.

At any one time, lifetime income can be calculated as the sum over a lifetime of annual earnings, inheritances, and government transfers, discounted by the market interest rate. It represents the individual's after-tax lifetime opportunities for consumption and bequests. Capital income does not enter the calculation, since the discounted value of the future stream of income from saving (capital plus its yield) is equal to the capital actually saved.

Horizontal Equity

A tax system is horizontally equitable if it treats equals equally. In keeping with the previous discussion, we adopt the view that individuals who have the same lifetime-consumption options regardless of the timing of income receipts - that is, individuals with the same present value of lifetime income - should be treated identically by the tax system; under our current system, they are not.

Double Taxation of Savings

The simple example illustrated in Table 4-3 shows that an annual-income tax system is horizontally inequitable when one of two individuals saves part of his income for consumption in the future and the other does not.

Table 4-3

Hypothetical Illustration of the Horizontal Inequity of an Annual-Income Tax System

	Annual-income tax system		Tax-prepaid system		Cash-flow tax system	
	Individual A	Individual B	Individual A	Individual B	Individual A	Individual B
Year 1						
Earnings	$20,000	$20,000	$20,000	$20,000	$20,000	$20,000
Total income	20,000	20,000	20,000	20,000	20,000	20,000
Saving	0	4,000	0	4,000	0	5,000
Tax base	20,000	20,000	20,000	20,000	20,000	15,000
Taxes	4,000	4,000	4,000	4,000	4,000	3,000
Consumption	16,000	12,000	16,000	12,000	16,000	12,000
Year 2						
Earnings	$20,000	$20,000	$20,000	$20,000	$20,000	$20,000
Capital income	0	400	0	400	0	500
Total income	20,000	20,400	20,000	20,400	20,000	20,500
Saving	0	-4,000	0	-4,000	0	-5,000
Tax base	20,000	20,400	20,000	20,000	20,000	25,500
Taxes	4,000	4,080	4,000	4,000	4,000	5,100
Consumption	16,000	20,320	16,000	20,400	16,000	20,400
Discounted values over the two year period						
Earnings	$38,181.82	$38,181.82	$38,181.82	$38,181.82	$38,181.82	$38,181.82
Taxes	7,636.36	7,709.09	7,636.36	7,636.36	7,636.36	7,636.36
Consumption	30,545.46	30,472.73	30,545.46	30,545.46	30,545.46	30,545.46

NOTE Calculations have been based on an assumed rate of return of 10 per cent and a tax rate of 20 per cent.

Consider two individuals, A and B, who throughout their lives receive identical annual earnings, government transfers, and inheritances. These three sources of income are lumped together under the heading "earnings" in the table. To simplify the example, we have restricted the lifetimes of individuals A and B to only two years in which both consume all of their wealth. Individuals A and B each receive earnings of $20,000 per year, and we assume that the rate of return to saving is 10 per cent and that the tax rate is 20 per cent. They differ only in their patterns of consumption over time: individual A spends all of his after-tax income on consumption goods and services in the year in which he earns that income; individual B spends only $12,000 on consumption expenditures in the first year, saving the balance of his after-tax income for consumption in the second year.

Under an annual-income tax system, both individuals pay $4,000 in taxes in the first year. In the second year, individual A again pays $4,000; but individual B, who saved $4,000 in the first year, must pay $4,080. The second-year difference of $80 between the two individuals' tax liabilities stems from the fact that individual B's taxable income in the second year is increased by $400 of capital income. Thus the double taxation of savings inherent in an annual-income tax system penalizes individuals who have a preference for future rather than present consumption. The figures in the last three rows of Table 4-3 substantiate this conclusion. Although individuals A and B have identical resources over the two year period, saver B has larger tax liabilities, and thus smaller lifetime consumption expenditures, over the two years than non-saver A.

Horizontal equity would be restored by a tax system that exempted capital income from the tax base. Under a tax-prepaid system, as the table shows, individuals A and B would pay exactly the same amount of taxes in spite of their different allocations of consumption expenditures over time. Under a cash-flow tax system, two individuals with the same lifetime incomes but different consumption patterns would again face the same lifetime tax liabilities.

It should be noted that individual B does not escape taxation under the cash-flow tax system by saving; taxes are merely postponed until the second period, when the capital saved plus its yield are spent. Individual B pays less in taxes than A in the first period, since the tax base is reduced by the amount of savings, but pays higher taxes than A in the second period, since the tax base is increased by the amount of the dissaving plus the yield from saving. Overall, when lifetime values are properly discounted, however, the two individuals pay the same amount of lifetime taxes.

What the example has shown is that the extra taxation of savings inherent in an annual-income tax is equivalent to an additional tax on future consumption. The lifetimes of the individuals in the example lasted only two years. In a more realistic context, in which the "economic lives" of individuals last about 50 years, the effect of the tax treatment of savings under an annual-income tax system is, of course, aggravated by the long-term effects of compound interest on the return to saving.

The effective additional tax rates on future consumption implied by an annual-income tax system for different statutory income-tax rates and dates of consumption are presented in Table 4-4. The figures in the table show that the effective additional tax rate on future consumption increases with the period of time considered and, furthermore, at an increasing rate. The bottom half of the table reveals how much more punitive is the taxation of savings and its returns when inflation is higher - 10 per cent, in the example - even though the real annual return to saving stays unchanged at 3 per cent.

Table 4-4

Effective Additional Tax Rate on Future Consumption Implied by an Annual-Income Tax: Two Examples

	Time of consumption (years)			
	1	10	20	30
	(Per cent)			
Income tax rate (%):				
Case A				
0	0	0	0	0
10	0.7	7.7	16.0	25.0
20	1.5	16.1	34.8	56.2
30	2.3	25.2	56.7	96.2
40	3.1	35.1	82.5	146.5
50	3.8	45.8	112.7	210.3
Case B				
0	0	0	0	0
10	1.2	12.3	26.0	41.5
20	2.4	26.2	59.3	101.0
30	3.6	42.1	101.9	186.8
40	4.8	60.2	156.6	311.0
50	6.1	80.8	227.0	491.4

Case A - Real interest rate = 3 per cent; inflation rate = 5 per cent; and nominal interest rate = 8 per cent.

Case B - Real interest rate = 3 per cent; inflation rate = 10 per cent; and nominal rate = 13 per cent.

SOURCE Calculations by the Economic Council of Canada.

Fluctuating Incomes — Our definition of "lifetime horizontal equity" asserts that individuals with the same lifetime income should pay the same lifetime amount of taxes. The horizontal-equity criterion is violated once again under a progressive annual-income tax system when some individuals have fluctuating incomes. Of two individuals with the same cumulative income over a given period of years, the one who receives a steady income will pay less in total taxes than the one whose annual income fluctuates. The reason is that increasing marginal tax rates mean a larger tax bite in high-income years than can be offset by lower tax payments in low-income years.

The extent of income fluctuations for Canadian taxpayers over the years 1982 and 1983 can be seen in Chart 4-1. Over these two years, 40.8 per cent of taxpayers either had the same income or experienced an income decline. For the group as a whole, the average decline in income in 1983 was 25.2 per cent of the income in 1982. As can be seen from the chart, the size of the decline is roughly the same for all age groups.

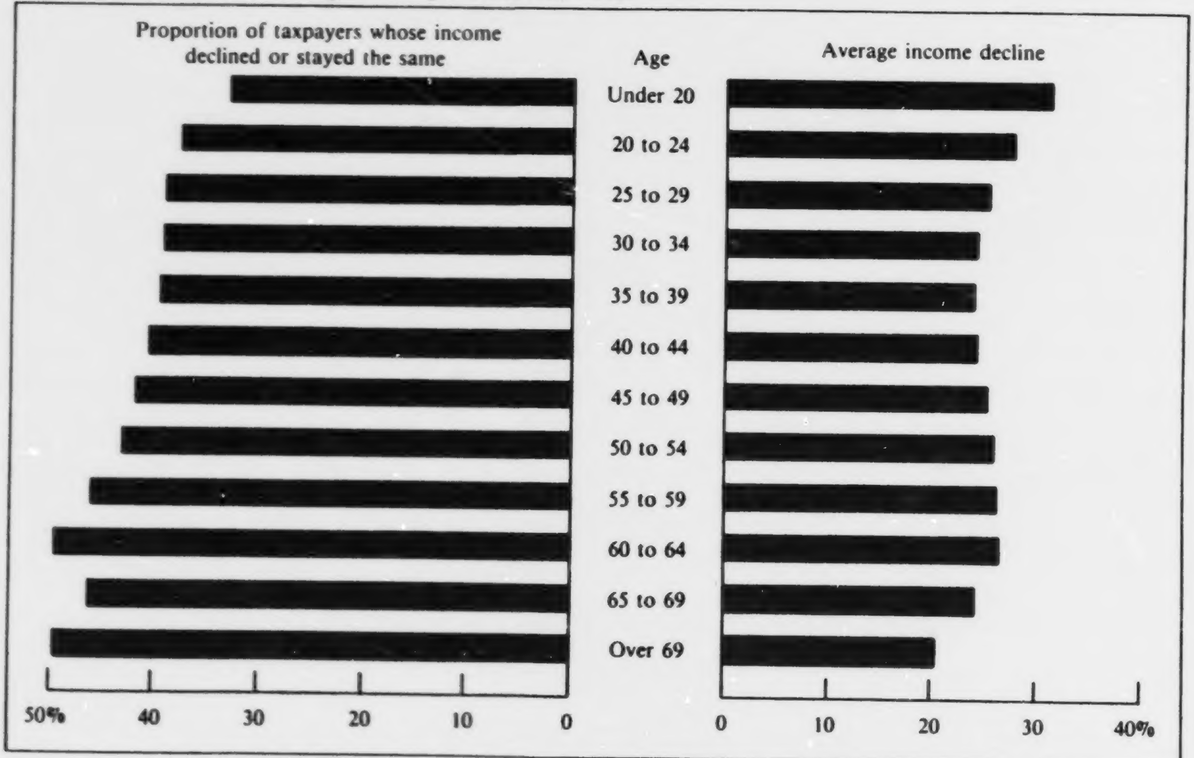
Given that consumption expenditures are much more stable over a lifetime than receipts of income, a cash-flow tax system would provide an implicit form of lifetime-income averaging, thus diminishing the degree of horizontal inequities in the tax system. Better yet, as we shall see in Chapter 7, taxpayers could achieve a large measure of do-it-yourself averaging under a system that allowed savings to be held in *both* unregistered and registered forms.

Vertical Equity

One of the roles of the tax system is to distribute the burden of taxes among the members of society in accordance with what society considers to be a fair or just state of distribution. The definition of a "fair distribution of taxes" involves value judgments that the Economic Council shall not make. Instead, we shall assume that the distribution of the tax burden accomplished by the existing tax-rate structure for personal taxes is the distribution that society desires; then we consider how it would be affected by a shift to a tax-prepaid or a cash-flow system.

Chart 4-1

Income Instability, by Age Group, Canada, 1983



SOURCE Based on data from Revenue Canada, *Taxation Statistics*, Ottawa, 1985.

Just as the measurement of horizontal equity requires an operative definition of "equals," the measurement of vertical equity requires a definition of "ability to pay." For the reasons outlined above, the preferred index of ability to pay is lifetime income. Unfortunately, much popular analysis has been limited to calculations of the effects of taxes on the annual distribution of income. Judging from annual data, a cash-flow tax would be seen as a source of benefit to high-income individuals and of harm to low-income individuals, since in cross-sectional data, consumption expenditure declines as income rises relative to currently taxable income. The effects of the tax-prepaid system would yield similar results on an annual basis. But this view of vertical equity gives a very poor idea of the distribution of the tax burden for anything more than the very short run.

Calculations of the lifetime and annual incidence of taxation for Canada have been published by Davies, St-Hilaire, and Whalley,[4] whose data are presented in Table 4-5. What shows up in the table is that inequalities in income, earnings, transfers, capital income, consumption, and saving rates are much more exaggerated in annual data than they are in lifetime data. The annual data reflect not only genuine differences in the profiles of individuals but transitory and age-related effects as well. Other studies have also shown that about one-half of annual-earnings inequality arises from these transitory and age-related effects and that the distribution of earnings is much more uniform on a lifetime basis.[5] As we have seen (Figure 4-1), earnings, savings and capital income all tend to increase in real terms over an individual's working lifetime and to decline after retirement. Consequently, in annual-income data high-income

Table 4-5

Composition and Uses of Lifetime and Annual Income, Canada, 1970

		Composition of income			Uses of income		
	Share of total income	Earnings	Transfers	Inheritances	Consumption	Bequests	Direct taxes
				(Per cent)			
Lifetime							
Decile:							
1	4.2	81.2	15.3	3.5	86.7	4.4	8.9
2	6.2	86.8	10.4	2.8	82.3	5.2	12.5
3	7.3	89.2	7.9	2.8	81.5	4.7	13.8
4	8.3	91.2	6.6	2.2	80.4	5.0	14.6
5	9.1	90.3	6.2	3.5	79.4	5.2	15.4
6	9.7	92.7	4.5	2.8	77.9	6.0	16.1
7	10.7	91.6	4.7	3.7	78.4	5.1	16.5
8	12.0	92.5	3.3	4.3	76.7	6.1	17.1
9	14.0	91.3	3.0	5.7	76.2	5.6	18.2
10	18.4	88.3	2.3	9.4	71.7	8.6	19.7
All	100.0	90.1	5.2	4.7	77.7	6.0	16.4
				Investment income		Saving	
Annual							
Decile:							
1	1.0	44.2	51.5	4.3	157.2	−62.4	5.2
2	3.1	50.1	44.2	5.7	117.0	−21.1	4.1
3	4.8	77.2	15.8	7.0	91.4	−0.3	8.9
4	6.4	85.6	7.7	6.7	84.2	−4.0	11.9
5	7.7	90.0	5.1	5.0	80.9	5.1	14.0
6	9.0	89.8	4.3	5.9	77.6	7.1	15.4
7	10.4	91.3	3.4	5.3	77.9	6.4	15.7
8	12.1	90.2	2.6	7.2	76.3	7.2	16.5
9	14.9	86.6	2.1	11.3	73.8	9.3	16.9
10	30.6	57.5	1.2	41.4	49.2	34.4	16.4
All	100.0	77.1	5.3	17.7	71.6	13.5	15.0

SOURCE Based on data from J. Davies, F. St-Hilaire, and J. Whalley, "Some calculations of lifetime tax incidence," *American Economic Review* 74, no. 4 (September 1984):633-49, Table 1.

groups are disproportionately composed of individuals in the 45-65 age group. On the other hand, low-income groups comprise, to a greater extent, younger and older individuals who, because they have lower earnings and incomes, either borrow or run down their savings to finance consumption. The variation in income levels among age groups does much to explain the wide variation in the ratio of capital income to total income and of consumption to income that has been observed among income groups in annual data. In the lifetime data, the transitory and age-related effects are completely removed, since lifetime values are cumulated over all ages; only permanent disparities remain.

Consequently, in any given year a large part of the redistribution of after-tax incomes implied by a progressive annual-income tax is not carried out among lifetime-income groups but rather among age cohorts – generally, from middle-age cohorts to younger and older ones. If a lifetime period were used as a base, the redistributive effects among age cohorts would become irrelevant, and lifetime-incidence calculations would show only the distribution of tax burdens among lifetime-income groups. Calculations of annual and lifetime incidences of various taxes, as computed by Davies, St-Hilaire, and Whalley, are reproduced in Table 4-6. On the basis of these figures, the authors conclude that "lifetime income taxes while progressive are less so than in the annual case; sales and excise are less regressive; social security is initially less progressive and subsequently less regressive by income range, and corporate and property taxes are less progressive (especially at the top end)."[6]

While tax-prepaid or cash-flow tax systems would look less progressive in their annual incidence than the current personal annual-income tax, their lifetime incidence should not be very different from the lifetime incidence of the personal annual-income tax. Table 4-7 presents the results of a separate study by Davies and St-Hilaire that estimates lifetime incidence for all three taxes. Both of the alternative tax bases are, of course, smaller than the annual-income tax base. Consequently, in order to preserve the present level of aggregate tax revenue, the calculations for both the tax-prepaid and cash-flow systems assume that the tax saving from exempting capital income from the tax base is reallocated in proportion to newly calculated tax payments. The results suggest that progressivity would be affected only slightly by a move to either alternative tax system, given the lifetime incidence under the current personal tax system. The overall incidence of personal taxation would be slightly more progressive under a cash-flow tax system than it is under the current personal annual-income tax, and slightly more regressive under a tax-prepaid system.

It is thus possible, under a tax-prepaid sytem or a cash-flow tax, to tax progressively the lifetime income of individuals while exempting or taxing differentially their returns from saving. Of course, if horizontal and

Table 4-6

Average Tax Rates of Canadian Households, by Decile, 1970

	1	2	3	4	5	6	7	8	9	10	All deciles
Lifetime incidence (deciles ranked by lifetime resources):											
Corporate income tax	2.2	2.9	2.6	3.0	2.9	3.3	3.3	4.1	3.4	5.1	3.6
Property tax	2.4	3.1	2.8	3.3	3.2	3.6	3.6	4.5	3.7	5.6	3.9
Sales and excise taxes	15.0	14.3	14.1	13.9	13.8	13.5	13.6	13.3	13.2	12.4	13.5
Social security	3.9	4.0	3.9	4.0	3.8	3.8	3.6	3.6	3.4	2.8	3.6
Personal income tax	7.3	11.3	12.5	13.5	14.5	15.1	15.7	16.7	17.7	20.5	15.8
All taxes	30.9	35.5	35.9	37.7	38.1	39.3	39.8	42.2	41.3	46.5	40.2
Annual incidence (deciles ranked by annual income):											
Corporate income tax	1.0	1.3	1.6	1.6	1.2	1.4	1.2	1.7	2.7	9.8	4.2
Property tax	1.1	1.5	1.8	1.7	1.3	1.5	1.3	1.9	2.9	10.6	4.5
Sales and excise taxes	27.2	20.3	15.8	14.6	14.0	13.4	13.5	13.2	12.8	8.5	12.4
Social security	1.7	2.5	4.1	4.3	4.2	3.9	3.8	3.4	3.0	1.4	2.9
Personal income tax	4.3	2.8	6.8	9.7	11.9	13.4	13.8	14.8	15.4	15.7	13.5
All taxes	35.4	28.4	30.1	31.9	32.6	33.6	33.7	35.0	36.8	46.0	37.5

SOURCE Davies, St-Hilaire, and Whalley, "Lifetime tax incidence," Table 2.

vertical equity are defined on a lifetime basis, the appropriate tax rate for individuals will not necessarily bear any relation to their current earnings or consumption. As mentioned earlier, to tax individuals at the appropriate rates – and thus achieve equity – the tax system would have to provide an averaging mechanism. Taxpayers could achieve a large measure of averaging under a combined tax-prepaid and cash-flow tax system that allowed saving to be held in both unregistered and registered forms. They could then smooth their tax liabilities over time by manipulating the mix of registered and nonregistered assets in their portfolios. Savings accumulated in a registered asset would have taxes deferred until withdrawn, and savings deposited in an unregistered account would be tax-prepaid. Borrowing (which is essentially dissaving) would get the inverse tax treatment. For example, individuals would be liable for taxes on amounts borrowed from a registered account, but repayment of the debt would be tax-deductible. Hence they would find it advantageous to borrow from their registered accounts if they expected to be in a higher *annual* tax bracket when the time came to repay the loan. Unregistered borrowing would be nontaxable, and repayment would be nondeductible.

Table 4-7

Lifetime Incidence of Alternative Personal Taxes: Burden as a Proportion of Lifetime Income, Canada, 1970

	Current personal annual-income tax	Tax-prepaid system	Cash-flow tax
		(Per cent)	
Lifetime-income decile:			
1	7.3	7.5	7.4
2	11.3	11.4	10.6
3	12.5	12.8	12.2
4	13.5	13.7	12.7
5	14.5	14.6	14.1
6	15.1	15.4	14.3
7	15.7	15.9	15.8
8	16.7	16.6	16.8
9	17.7	17.9	18.5
10	20.5	19.8	21.0
All	15.8	15.8	15.8

SOURCE J. Davies and F. St-Hilaire, "Reforming capital income taxation in Canada: Efficiency and distributional effects of alternative options," Economic Council of Canada (forthcoming), Table 7-5.

Tax-prepaid or cash-flow systems of taxation would have additional redistributive effects over the long run. For instance, if either tax should stimulate saving and the increased saving were translated into a higher ratio of capital to labour inputs in production, real wages would increase – a result that would tend to equalize the distribution of income. Furthermore, by taxing neither savings nor the yields generated by the savings, the tax-prepaid and cash-flow systems would offer individuals higher rates of return and thus reduce the discounted value to individuals of future receipts. Consequently, the returns from investment in human capital (e.g., education), which consist of higher earnings in the future, and the value of inheritances, which are usually received later in life than earnings, would decline. These outcomes would also tend to equalize the distribution of income.

Effects of Alternative Tax Treatments on Saving

Intertemporal Economic Efficiency

Until quite recently, the conventional wisdom was that saving was completely insensitive to changes in its rate of return. Studies commissioned by the Council, however, report that personal saving is, in fact, highly responsive to interest rate changes.[7] The most reliable estimates in these studies indicate that a permanent increase of 1 percentage point in the real after-tax rate of return would lead to an increase in aggregate personal saving of around 40 per cent, which translates into a real after-tax interest-rate elasticity of saving of roughly unity. As is shown in Table 4-8, the effect differs widely

Table 4-8

Effect on Saving of a 1-Percentage-Point Increase in After-Tax Rate of Return, by Age Group

	Change in saving
	(Per cent)
Age group:	
Under 25	104.5
25-29	54.1
30-34	24.6
35-39	8.4
40-44	−0.1
45-49	−3.9
50-54	−5.3
55-59	−5.7
60-64	−6.3
65 and over	−10.0
Overall	39.2

SOURCE C. Beach, R. Boadway, and N. Bruce, "Taxation and savings in Canada," Technical Paper, Economic Council of Canada (forthcoming), Table 7-8.

across age groups, declining as age increases. Indeed, it is negative for individuals over age 40.

The difference in results across age groups arises because a change in the real rate of return affects saving behaviour in two opposing ways. On the one hand, because a rise in the real after-tax rate of return makes future consumption cheaper, it gives individuals an incentive to increase their future consumption by increasing personal saving. On the other hand, with a higher real rate of return they need not save so much to afford a given amount of future consumption. The latter effect is likely to outweigh the former in the case of those who have already accumulated large savings, as a rise in the real rate of return means a significant increase in their capital income. Since capital accumulation tends to increase with age, the negative effect on saving of a rise in its real rate of return is more pronounced among older individuals than among younger ones.

Given the estimates in Table 4-8 of the responsiveness of saving to changes in its real rate of return, it is possible to calculate for each age group the efficiency cost of maintaining an annual-income tax system rather than a system that would not distort consumption decisions over time – i.e., a tax-prepaid or a cash-flow system. The calculations shown in Table 4-9 assume that individuals in each age group would pay the same present value of taxes over their remaining lifetimes under a cash-flow or a tax-prepaid system as they would under an annual-income tax system, where the returns to saving were taxed at a rate of 30 per cent. The younger the age group, of course, the longer the period over which an annual-income tax system will distort their consumption decisions; consequently, the excess burden of taxing the return to saving declines with age. The percentages in the table can be interpreted as the fractions of lifetime income (or, for that matter, annual income) by which consumption expenditures could be increased by the adoption of a tax-prepaid or a cash-flow tax base. Everything else remaining constant, an exemption of the return to saving from the tax base would increase the lifetime income of the average individual by roughly 1 per cent.

Table 4-9

Excess Burden of a 30-Per-Cent Tax on the Return to Saving, by Age Group

	Excess burden as a proportion of lifetime income
	(Per cent)
Age group:	
Under 25	1.28
25-29	1.36
30-34	1.26
35-39	1.23
40-44	1.17
45-49	1.07
50-54	0.91
55-59	0.67
60-64	0.36
65 and over	0.09
Overall	1.04

SOURCE Beach, Boadway, and Bruce, "Taxation and savings," Table 9-2.

Overall Economic Efficiency

The above estimates of the efficiency costs of an annual-income tax system are *partial* estimates, since they assume that nothing in the economy changes when a tax-prepaid or a cash-flow system is substituted for an annual-income tax system except the return to saving and the level of saving. In fact, an increase in the level of saving, by increasing the level of aggregate capital accumulation, would bring substantially larger benefits than those we have discussed to this point. On the other hand, because a cash-flow tax or tax-prepaid base would be smaller in the short run than the annual income tax base, a shift to either of the alternative bases without a reduction in government expenditure could mean an increase in tax rates. Increased rates could reduce work effort, thereby diminishing the extent to which a shift from an annual-income to a tax-prepaid or cash-flow system of taxation would increase average lifetime income. Finally, the choice between investing in human-capital formation as opposed to accumulating physical wealth is affected by the type of tax system in place.

Taxation and Aggregate Capital Accumulation

As discussed earlier, the higher rate of return permitted by exempting capital income from the tax base should result in higher aggregate saving in the economy. Other things being equal, the expanded pool of funds available to finance investment expenditures would reduce the interest rate. The reduced cost of acquiring capital would enable firms to increase capital investment. The addition of more capital equipment to the production process would in turn increase the productivity of labour. In the long run, the economy would attain a new equilibrium characterized by a higher capital/labour ratio, a lower interest rate, and a higher wage level.

In a well-known simulation of tax changes for the United States, Summers suggests that a tax-prepaid reform would, after all the effects had worked their way through the economy, increase the capital/labour ratio in that country by 58 per cent, the wage level by 14 per cent, and consumption by 13 per cent. Cash-flow tax reform would augment the capital/labour ratio by 74 per cent and yield increases of 18 per cent in wages and 16 per cent in consumption. The average individual would need a 5-per-cent increase in lifetime income to be as well off under an annual-income tax system as under a tax-prepaid system, while a change to a cash-flow system would lead to economic betterment equivalent to a 12-per-cent increase in lifetime income.[8]

Much of the payoff from the introduction of a cash-flow or a tax-prepaid system in these simulations would come from the growth effect of the sizable boost in investment that either reform would bring about. This effect would be greater under a cash-flow tax system because, as we noted earlier, it would raise taxes later in the life of the individual and would thus permit a higher level of saving than would a tax-prepaid system.

The results of the U.S. simulations were derived in a closed-economy framework; that is, it was assumed that all of the additional saving induced would be invested in the domestic economy and thereby contribute to its growth. In a small, open economy such as Canada's - an economy exposed to a high degree of international capital mobility - not all of the additional domestic saving generated by a tax-prepaid or cash-flow reform would serve to augment the stock of productive capital in the economy. The proportion of saving invested domestically depends on the working of the international capital market and the tax provisions that affect foreign investment income (which will be discussed in Chapter 5). Thus additional saving may enlarge the economy's capital stock, in which case investment demand substitutes for consumption demand. Alternatively, it can replace foreign capital or flow out of the country, in which case the reduction in consumption demand is offset by an increase in our net exports of goods and services. Then, in order to maintain total government revenues, taxes that would have been paid by this capital would now have to be paid by domestic factors of production.

Taking our open economy into consideration, Council research has simulated the long-run effects of tax-prepaid and cash-flow reforms for Canada. The results for the most likely scenarios indicate that the average individual would be slightly worse off under a tax-prepaid system than under an annual-income tax system that raised the same amount of government revenue. A cash-flow tax would yield the equivalent of an increase in lifetime income of roughly 7 per cent. Under a cash-flow tax system, we estimate that the long-run capital/labour ratio would rise by 67 per cent; wages would increase by 14 per cent; and consumption, by 11 per cent.[9]

These figures represent the long-run consequences of adopting a *pure* cash-flow tax system as opposed to a *pure* or comprehensive annual-income tax system. In other words, the above simulations ignore static inefficiencies related to the inter-asset distortions caused by the excessive variations in the marginal effective tax rates discussed in Chapter 3. In a recent study, researchers concluded that moving to either a *pure* income or a *pure* cash-flow could produce a more efficient allocation of resources than do the current arrangements.[10]

Taxation and the Supply of Labour

Basically, individuals devote their time either to work or to leisure. Leisure can be regarded as a commodity whose price is the net wage income forfeited by not working for an extra hour. An increase in the tax rates under the tax-prepaid or cash-flow systems lowers the price of leisure relative to the price of other commodities and could induce the individual to take too much leisure relative to other consumption goods. Hence, while exemption of returns to saving from the tax base will reduce distortions in intertemporal choices of consumption, the higher tax rates that must be imposed on the smaller tax-prepaid or cash-flow base in order to keep government revenues constant may distort the labour/leisure choice. An excess burden may result, since the rise in the tax rates will amplify the difference between the social cost of labour (the gross wage) and the benefit to the individual (the after-tax wage). The magnitude of this excess burden will depend on the extent to which individuals reduce their work effort in response to lower after-tax wages.

A second effect is also present. A rise in the tax rate also means that an individual will receive a lower net income. This income effect means that there will be a reduction in the purchase of all consumption goods and a reduction in leisure, meaning also that the individual will work more. The income effect, unlike the change in the price of leisure, acts as a lump-sum tax and is therefore nondistorting and incurs no excess burden. The total change in labour supply, however, is the result of these two opposing effects and may be determined only by empirical studies.

Over the past decade, the results of empirical studies on the responsiveness of labour supply have varied considerably, depending upon a host of factors such as age, sex, income, nationality, and marital status. Over this same period, the data and methodology have also improved considerably, resulting in some narrowing of the range of estimates. The labour-supply responsiveness of men and single women, based upon surveys of recent U.S. and Canadian studies, appears to be slight.[11] A decline of 1 per cent in the after-tax wage has been shown to increase by 0.1 per cent the amount of labour supplied. The labour supply of married women, however, has shown much greater variability from one study to another. Based upon the most recent survey of Canadian studies, the labour-supply response would appear to be much in line with that for men, while a study done at the Council shows that a reduction in after-tax wages of 1 per cent results in a reduction of 0.2 per cent in the amount of labour supplied.[12] In the case of married women, the labour-supply responsiveness estimated in some U.S. studies has been significantly higher; however, the most recent U.S. study, which criticizes the methodological shortcomings of previous estimates, arrives at conclusions very similar to those of a study prepared for the Council.[13]

Just as interesting as the change in the amount of labour supplied as a result of the imposition of a tax is the extra cost associated with the tax, or excess burden, that results when the lowering of the price of leisure induces individuals to work less. Recent Canadian studies indicate that this excess burden would be small. For example, we estimate the excess burden of taxing labour income to be equivalent to 3.5 per cent of tax revenues raised, or to be a very much smaller proportion of GNP, for married women working full-time. The excess burdens for married women working part-time and for male workers are certainly no higher, given the responsiveness of those groups to wage changes. Hence an upper-bound estimate of the *entire* efficiency cost of taxes on labour income could well be under 1 per cent of GNP. Since what matters under a tax-prepaid or cash-flow reform is the *additional* excess burden created by raising tax rates in order to maintain revenues, we can safely assert that this excess burden is not a matter of serious concern.

So far we have addressed the short-run effect on labour supply of the need to raise tax rates under tax-prepaid or cash-flow systems. The long-run effect is more difficult to determine. As mentioned above, an increase in the rate of return to saving lowers the price of future consumption, including future leisure, relative to the price of present consumption and leisure. As a result, it induces individuals to substitute future leisure for present leisure. If rates of return on savings increase, individuals will be able to accumulate a given stock of wealth faster and may be motivated to increase their labour supply during their youth in order to retire earlier. Unfortunately, the question of the extent to which a change in the rate of return to saving produces a trade-off between present and future leisure has not yet been resolved.

Taxation and Human-Capital Formation

The taxation of capital income affects not only the accumulation of physical wealth but also the formation of human capital. Education, the main means of human-capital formation, raises an individual's productivity and, therefore, future income. In this sense, investment in education is similar to investment in any other asset that yields a monetary return in future periods.

The decision to invest in human capital, like other investment decisions, depends on the cost of the investment and the duration and timing of the returns from the investment. The costs, in addition to the direct expenses of schooling, include the major element of forgone earnings. If the duration of the returns or their timing changes, or if the tax system affects the costs or the benefits of education, the present value of the investment in human capital will also change and, with it, the level of investment.

In general, the profitability of human-capital accumulation is affected by future plans concerning the allocation of time between work and leisure. Still, human-capital accumulation represents investment, and it is governed to some extent by the impetus to equalize the after-tax rates of return to investment. A tax-prepaid system, by taxing the returns to human capital but not the returns to physical capital, will tend to discourage human-capital investment relative to an annual-income tax. On the other hand, a cash-flow tax treats investment in human capital and physical capital symmetrically. Investment in human capital will take place to the point at which its rate of return falls to the the same level as the rate of return on physical capital. Human capital is essentially treated on a cash-flow basis by the current tax system.

What empirical evidence is available concerning the impact of taxes on human-capital accumulation suggests that the welfare cost of a cash-flow tax would be negligible – less than one-tenth of that of an annual-income tax.[14]

Transition to a New Economic Equilibrium

It would take time for all of the effects of a tax-prepaid or cash-flow reform to work their way through the economy. The benefits of reform to individuals, as discussed in this chapter, resulted from comparisons of their economic welfare now and when equilibrium was reached after the reform was in place. The interval could be of several decades' duration.

In the absence of provisions to ease the country into a new tax system, the transition would produce both gainers and losers, since individuals of different ages at the time of the tax change would be affected differently. It is frequently argued that under a cash-flow tax reform, the older age cohorts alive at the time of the policy change would experience an unexpected additional tax burden. A study of the consequences that immediate imposition of a cash-flow tax would have in the United States has asserted that not only the retired but, in fact, all cohorts over 38 years of age at the time of the policy change would be net losers.[15] The benefit of being able to save at an undistorted rate of return would be overwhelmed by the increase in tax liability that would arise because the older cohorts' share of the cash-flow tax base would be greater than their share of the annual-income tax base. Those younger than 38 would gain both from the shift in current tax burdens toward older cohorts and from the increase in real incomes in the future resulting from the increased rate of capital formation.

This type of analysis assumes that consumption expenditures would become the tax base; that is, it assumes that none of the saving was registered before and that all of it becomes registered on the day of the tax change and would thus be taxable when withdrawn from the registered accounts. The intergenerational tax transfer could be minimized by waiving registration of savings held at the time of the tax change, on the ground that such savings had been accumulated out of after-tax income and should not be subject to further taxes. The point is that the personal cash-flow tax would be implemented through a tax not on consumption but on income less registered saving. To the extent that older generations had saved under the existing system, only the dissaving of registered assets and pension benefits would be affected by the new tax. Retirement consumption financed through the disposal of nonregistered assets and houses would not be penalized. Future savings could be held in either registered or unregistered assets. Given a progressive tax structure, an individual could apportion savings between the two types of assets in a way that would permit some tax averaging over a lifetime. The Council's research indicates that a mixed system of this kind would ease the transition costs and speed up the transition period, and could even generate greater efficiency gains than a cash-flow tax system.[16]

It is reasonable to observe that most Canadians are already taxed under a tax system that distinguishes between registered and unregistered assets. Removal of the limits on deductions for interest and dividends, and on the amount of saving that can be registered, together with the integration of the corporate and personal tax system through the provision of a full dividend tax credit at the personal level, could move the current tax system toward an ideal tax system.

Conclusion

We have shown that when efficiency and equity are viewed in a lifetime context, the best way to achieve these goals is through a tax system that avoids the excessive taxation of saving inherent in an annual-income tax. This chapter has analysed the effects on efficiency and equity of two alternatives to the taxation of capital income - a tax-prepaid system and a cash-flow tax system.

Either tax would be superior to an annual-income tax in its effect on horizontal equity, since unlike an annual-income tax neither alternative would discriminate against individuals with a preference for future consumption - that is, savers. Although calculations of tax incidence based on annual data suggest that failure to tax capital income would imply a regressive structure of taxation, the lifetime incidence of a tax-prepaid or a cash-flow system would not differ much from the lifetime incidence of the current tax system. Both tax-prepaid and cash-flow systems also avoid the unnecessarily complicated problem of indexing capital income for inflation.

If we apply the criterion of economic efficiency, the advantage lies with the cash-flow tax alternative. The strong responsiveness of saving to changes in its after-tax rate of return and the rather weak response of labour supply to variations in after-tax wages mean that the cash-flow tax alternative would increase the economic welfare of the average individual. Another advantage of the cash-flow tax is that it does not distort the choice between investing in physical and human capital.

Although a pure cash-flow tax system would be greatly preferable to a tax-prepaid system, the transition to a pure cash-flow tax could be costly. A mixed system - one that provided for both registered and unregistered savings - would reduce the transition costs of reform. The implementation of a mixed tax system would not be difficult, since the current system already incorporates many saving incentives, including the RPP and RRSP provisions, the $1,000 deduction for interest and dividend income, and the tax-prepaid treatment of housing and other durable goods.

5 International Aspects of Taxation

Any appraisal of Canada's tax-reform options must take into account the international dimensions of provisions intended to achieve equity and efficiency objectives. Moreover, both domestic and foreign tax policies should be examined to determine their potential effects on Canada's chances of success in international competition and the pursuit of domestic growth. At issue is whether Canada, as a trading nation and importer of capital, could adopt reforms different from those in international practice.

This chapter begins by setting out some equity and efficiency issues raised by the taxation of foreign investment income. It then describes the principal features of Canadian and foreign (especially U.S.) tax treatments of such income and explores the extent to which one can diverge from the other. The chapter concludes with a discussion of some options for Canadian tax reform.

The conclusion is that if Canada retained a corporate income tax, the country's competitive position in the world might not be affected by deviations of the income tax system from those in other countries, provided that the corporate tax was applied neutrally on different industries in Canada. If, however, the policy objective was not efficiency but equity in the distribution among countries of tax revenue from international business, the Canadian income tax system should deviate less from that of its major suppliers of capital, perhaps even at the expense of adopting some of the non-neutralities in foreign tax systems. Whatever the objective, tax arbitrage in the financing of international business could defeat the attempt to impose a different set of corporate income taxes. Fortunately, the United States, Canada's major supplier of foreign capital, is moving towards greater neutrality in corporate income taxation, and this may reduce the differences between efficiency and equity objectives in Canadian tax policy. But the fact that the United States has also reduced corporate and personal income tax rates has diminished Canada's ability to benefit from tax credit mechanisms and created pressure for tax reductions here.

If Canada adopted a pure consumption tax, the benefits from the taxation of Canadian-source income of non-residents would be lost. With the present corporate income tax and a new personal lifetime-income tax, however, these benefits could be retained. Canada's current tax system already contains features that make a lifetime-income tax compatible with foreign income taxes, and Canada's international tax relations would be least disturbed by such a change.

Throughout, the emphasis in this chapter is on the taxation of income from the capital that residents place abroad and that non-residents invest in Canada. The importance of foreign capital to the Canadian economy can be seen in Table 5-1, which shows the proportion of Canada's industrial capital owned by non-residents in 1980, by industry group. Although the exact percentages vary from year to year - in some industries they have declined - they remain considerable.

Table 5-1

Proportion of Capital Employed in Canada That Is Foreign-Owned, Year End, 1980[1]

	(Per cent)
Manufacturing	48
Petroleum and natural gas	48
Mining and smelting	49
Railways	28
Other utilities	29
Total, including also merchandising and construction	35

[1] Based on the book value of long-term debt, equity, and retained earnings.

SOURCE Statistics Canada, *Canada's International Investment Position, 1981 to 1984* (Ottawa: May 1986), Table 32.

The investment of Canadian assets abroad is also substantial. The size of Canadian investments in foreign countries and foreign investments in Canada are compared in Table 5-2. Although lack of adjustment for inflation warps both sets of figures upward, it is plain that during the 1960s and 1970s Canadian assets abroad increased at a faster rate than Canadian indebtedness to non-residents.

On balance, however, Canada remains a debtor nation and is likely to remain one for quite some time. Thus a substantial fraction of Canadian economic growth is, and will continue to be, financed by foreign saving. The contribution of foreign saving to national saving (Table 5-3) suggests the extent to which Cana-

Table 5-2

Canada's Balance of International Indebtedness, Selected Years

	1950	1960	1970	1980	1985(p)
			($ billions)		
Gross assets	5.9	8.9	22.0	67.5	132.5
Gross liabilities	10.1	25.0	52.0	174.1	305.6
Net liability position	4.2	16.1	30.0	106.6	173.1

SOURCE Statistics Canada, *Canada's International Investment Position, 1981 to 1984*; and *1982 to 1985* (preliminary), Table 1.

dian saving might have to be increased if the two-way traffic in capital were to cease. Like the other data, they make it clear that a discussion of the taxation of capital income in Canada is incomplete if it is restricted to the incomes of Canadians or to incomes earned in Canada.

Table 5-3

Sources of Net Capital Formation, Canada, 1949-80

	Net foreign savings	Net national savings	Foreign as a proportion of total savings
	($ billions)		(Per cent)
1949-51	1.0	7.9	13
1952-54	1.5	9.5	16
1955-57	4.7	13.1	36
1958-60	4.6	12.3	37
1961-63	3.4	12.6	27
1964-66	4.8	22.2	22
1967-69	4.6	26.4	17
1970-72	3.3	29.7	11
1973-75	14.4	60.3	24
1976-78	23.4	75.1	31
1979-80	16.0	68.2	23
1949-80	81.2	341.2	24

SOURCE Statistics Canada, *Canada's International Investment Position, 1979 and 1980*, Table 33.

Objectives of International Tax Provisions

One of Canada's primary economic objectives is to enhance its competitive position in the world – that is, to seek its comparative advantage in commodity trade and the best employment of its resources. Taxation here and abroad affects the degree to which this objective is achieved. The result must also be judged, however, by the fairness of the tax measures used to achieve it.

Equity and Foreign Income

One equity objective of tax policy for foreign income is the avoidance of double taxation of residents. Double taxation arises when a person who earns income and pays taxes in a foreign country is taxed by the home country on gross foreign income without recognition of the taxes already paid abroad. This arrangement is inequitable in that two residents of Canada, each of whom risks the same amount of capital (or exerts the same labour effort), may obtain different after-tax incomes solely because their income-producing activities were carried on in different countries.

In a simple world, double taxation could be avoided if all countries used either the territorial or the residence principle in claiming the right to tax income. The territorial approach gives a jurisdiction an exclusive claim to tax income earned in its territory and no right to tax the foreign income of residents. The residence principle, on the other hand, gives a jurisdiction a claim to tax the worldwide income of its residents but no right to tax income earned within its territory by nonresidents. Both these principles are used in today's world, and both are breached as often as they are observed. In particular, countries such as the United States that profess to follow the residence principle do not forgo opportunities to tax foreigners on their territory. They also make concessions to the territorial principle by granting credits for foreign taxes paid.

In the modern world, neither principle can be adhered to exclusively. For one thing, countries cannot be easily classified as either importers or exporters of capital, as they generally fall into both categories. Portfolio investments will flow wherever investors can reduce financial risks by international portfolio diversification. Direct investment – the type over which shareholders retain control – can be made by locating abroad or by expanding at a foreign location. The placement of direct investment depends on the specific circumstances of a firm and on its business strategy and therefore may move in either direction across an international border. So long as the world is too complex for strict application of either the residence or the territorial principle, foreign tax credits and exemptions are the only ways to avoid double taxation.

While the right of the source country to levy taxes on incomes earned within its borders is generally recognized, there are no established rules for determining which of two sovereign countries is obliged to grant relief from double taxation. If both countries have the same tax rate, the potential victim of double taxation would not care which one granted the exemption or credits, but obviously neither country would be indifferent about the prospect of giving up revenue to the other. At this point, the equity issue becomes one of sharing tax revenue among countries.

If tax rates differ among countries – as they invariably do – relief from double taxation can take one of four forms, each of which is exemplified in the current tax policies of Canada and other countries.

1 The home country can reimburse residents for taxes paid to a foreign country and then assess their gross incomes as if they had all been earned at home. Thus Canada extends limited tax credits for the foreign taxes that Canadians pay on certain types of foreign incomes.

2 The home country can exempt the foreign-source income of its residents. Such is the case with much of the foreign income of Canadian corporations.

3 The foreign country can exempt the income of non-residents. For example, Canada does not tax the interest on certain bonds that is remitted to non-residents.

4 Two countries can work out a compromise among the first three alternatives. Canada has entered into a number of bilateral tax treaties that include provisions for avoiding double taxation.

Because tax rates and even tax systems differ among countries, it is impossible to put foreigners, residents, and residents who risk their savings abroad on an equal footing and treat them equitably as if they were all citizens of one country. Moreover, what appears equitable on one side of a border may seem like discrimination on the other side. Furthermore, so long as one country's taxation of the income of non-residents can reduce the tax base of another country, a commitment to non-discrimination is an essential ingredient of any tax treaty.

Efficiency and Foreign Income

A primary concern of tax policy is that it should encourage, or at least not impede, growth in the economy. Thus, barring overriding policy objectives, the tax system should interfere as little as possible with taxpayers' attempts to obtain commodities and resources where they are cheap and to employ or sell them where they are expensive. Taxes should not disturb the ranking of resources by their costs so that taxpayers will not mistake what is scarce for something that is cheap and waste it. Yet even this simple principle of efficiency in taxation does not have a clear and general application internationally.

The difficulty is that several points of view are involved. When capital is owned in one country and employed in another, the efficiency of taxing the resulting income can be judged in two ways. For a capital importer, the efficiency criterion dictates that capital be drawn from its cheapest source and thus that foreign and domestic capital be taxed at the same rate. This requirement is called capital-import neutrality. For a capital exporter, efficiency requires that the country's tax system not prevent the employment of capital wherever it finds the highest returns. Known as capital-export neutrality, this concept is the one adopted in the model taxation treaty of the OECD.

All countries have an interest in avoiding double taxation since it raises the cost of capital to importers and reduces the returns to exporters. Nevertheless, in practice an element of double taxation does remain, even in the tax systems of countries that follow the OECD model. The reason is that credit granted for foreign taxes is always limited to the lesser of two amounts – the tax actually paid to a foreign country; and the tax that would have been due had the income been earned at home. Without this limitation, the national coffers would be wide open to foreign treasuries. The remaining double taxation is the main reason for the convergence of corporation income tax rates on a level common to most industrialized countries.

Another deviation from neutrality works in the opposite direction. Payment of tax to the home country can usually be deferred to the time of profit repatriation, and thus the tax falls on realized – as distinct from accrued – gains. For the investor, the deferral increases the relevance of host-country taxes relative to that of home-country taxes and diminishes the potential for double taxation. At the same time, it may distort the investment incentives in the capital-exporting country.

Treatment of Income from Foreign Investment

The Canadian tax treatment of foreign-source income was changed substantially in 1976, with the intent of distinguishing portfolio investment from direct (business) investment, promoting capital-export neutrality for direct investment, and avoiding as much revenue loss as possible, while recognizing the primary right of a source country to tax the income earned in it. The fact that these objectives are somewhat inconsistent called for compromises in tax policy. Canada now applies almost all of the various principles of foreign-income taxation in general use, treating different classes of income separately.

Foreign-Source Income of Individuals

The treatment of Canadian individuals' income from foreign portfolio investment has remained essentially unchanged over the years. Individual taxpayers must declare foreign-source income when received and take a tax credit for foreign taxes paid. This credit is limited to 15 per cent of gross before-tax foreign income, with an additional "per country" limitation. If the foreign taxes surpass these limits, the individual can deduct the excess from other income.

Foreign-source interest is often received free of foreign taxes. Most dividends, however, are subject to the source country's withholding tax and corporate income tax. This fact combines with the limits on the foreign tax credit to make dividends candidates for double taxation and creates a tax preference for Canadian equities – a preference that has been increased by granting the dividend tax credit only for dividends paid by Canadian corporations to residents of Canada.

The total volume of foreign-source income of individual Canadian taxpayers is comparatively small, and the main policy issue with this type of income concerns avoidance and evasion. A switch to a consumption tax could magnify the importance of this issue, and we shall return to it in a later section of this chapter.

Foreign-Source Income of Canadian Corporations

For tax purposes, the foreign-source income of Canadian corporations is classified in three categories: portfolio investment income; active business income; and passive business income (Revenue Canada calls the last item "foreign accrual property income," or FAPI) – each at three levels of investment control: foreign portfolios; affiliates; and controlled affiliates.

Dealing with the nine distinctions can quickly bog a discussion down in technicalities; therefore, it seems useful to focus on their purpose. Before 1972, the foreign-source income of Canadian corporations was included in income and taxed accordingly, with a credit for foreign withholding taxes. An important exception was made for intercorporate dividends originating in a controlled foreign corporation, which were exempt from Canadian taxes. (Dividends paid by one Canadian corporation to another are generally not subject to tax.) This treatment of intercorporate dividends offered an opportunity to channel income tax-free to Canada through foreign corporations, perhaps even after transforming non-dividend income into dividends payable tax-free to a Canadian parent company.

These problems arose because Canada was attempting to apply the territorial principle of taxation to direct investment income, and the residence principle to foreign income from other sources. This double approach is understandable, considering Canada's traditional position as a host for direct investment capital. But policymakers had overlooked two possibilities: that Canadians would export capital; and that foreign corporations with no business in Canada would channel their worldwide income to a tax-free holiday in this country.

The new rules and classifications are designed to disentangle income flows by identifying the original sources of money flowing through non-resident intermediaries. Income ultimately derived from active business (direct investment) is called tax-exempt surplus and – still following the territorial principle – passes tax-free through Canadian parent corporations. Everything other than active business income is taxed. The cash basis is used for income received by an individual or paid to a corporation by an entity other than its own controlled foreign affiliates, whereas the accrual basis applies for income that originates in a controlled affiliate.

These distinctions among types of incomes and degrees of business control have little precedent in accounting or law. The FAPI rules, in particular, are notorious for creating difficulties. The important point here, however, is that tax complexity and compliance costs can be increased by the simultaneous application of conflicting tax principles.

The Canadian tax treatment of the bulk of residents' foreign income is, however, very simple. The ratio of taxed foreign income (FAPI, and branch, affiliate, and portfolio income) to untaxed income (including controlled affiliates' earnings that are retained abroad) is about one to three. To put it another way, only 25 per cent of foreign-source income enters the Canadian tax base. The remainder is foreign-source dividends of controlled foreign affiliates, which are tax-exempt under a territorial approach.[1] Remember, however, that this "tax-free" foreign income does not generate foreign tax credits in Canada and that it is usually taxed at the source.

Canadian Portfolio Income of Non-Residents[2]

Most Canadian interest income, some of which goes to non-residents, is taxed by the residence approach. As a rule, dividends, interest, and other types of Canadian-source income of non-residents are subject to a Canadian withholding tax. But the foreign holders of government and government-guaranteed bonds have been exempt from Canadian withholding taxes for many years, and the exemption has gradually been expanded to include corporate bonds and foreign-currency deposits at Canadian banks.

This exemption is renewed every year, with the explanation that the burden of a withholding tax on these interest outflows would fall not on the non-resident lenders but on the Canadian borrowers. The reason is twofold. First, the interest payable on these debts is effectively determined not in Canada but in international financial markets, so that a Canadian tax would have no effect on the net-of-tax interest rate expected by the foreign creditors. Second, these credits flow through financial institutions that derive their income from interest-rate spreads that are too thin to support a claim for a foreign tax credit. A numerical example best illustrates the point. To hold a Canadian bond that yields $100 in annual interest, a foreign credit institution must attract deposits or other funds that cost it $99 in annual interest payments. Thus the institution declares to its home country that its Canadian investment has yielded only one dollar of taxable income, and that dollar is the maximum that the institution can expect in relief for any taxes paid to Canada. Therefore, if Canada were to impose a 15 per cent withholding tax on the gross Canadian interest income of non-residents and collect $15, the foreign institution would have to demand at least an additional $14 in annual interest or simply refuse to supply the credit. If the Canadian debtor is the federal government (as it often is), imposing the withholding tax would give it little more in revenue than it would have to pay in additional interest costs.

Thus a withholding tax on the interest of government bonds is pointless. And since non-resident investors see one Canadian debt instrument as an easy substitute for any other, there was gradual pressure to extend the exemption to other types of Canadian-source interest payments.[3]

Tax Harmonization

Should Canada harmonize its tax system with the systems of its major trading and investment partners? The answer is a qualified "yes," and we arrive at it from either of two points of view that address quite different concerns. One focuses on Canada's competitive position in world commodity trade; the other is concerned with technical questions of tax compliance and tax arbitrage.

Taxes and the Competitive Position of Canada

Does a deviation of Canadian taxes from foreign taxes affect the country's international competitiveness? Consider the results of an increase in any one of many taxes: federal or provincial income taxes; sales taxes; property taxes; royalties; import duties; and so on, but – for the purposes of this chapter – principally the corporate income tax insofar as it affects the cost of capital. An increase has two effects: one on the exchange rate; the other on the position of one Canadian industry relative to another or on Canada's comparative advantages in world trade. Both of these effects are important to tax policy, the second more so than the first.

Initially, of course, the tax increase raises the cost of Canadian goods. But, assuming that the goods affected enter foreign trade, either they are export goods or they compete with imports. If they are export goods, fewer of them will be sold abroad (even if some of the cost increases can be passed on to foreign buyers). If they compete with imports, fewer of them will be sold in Canada, and more imports will be brought in. In either case, the effect of the tax increase is to reduce a surplus or increase a deficit in Canada's balance of payments. Consequently, the Canadian dollar will depreciate, stimulating exports anew and penalizing imports, and so reverse most of the change wrought by the tax increase.

Notice, however, that this correction works only on the aggregate of exports and imports. For individual industries, the currency depreciation may be too much or too little. So the relative positions of Canadian industries may still be affected by the tax increase. The extent of this effect will depend on whether the tax increase is a general one that applies equally to all industries or falls more heavily on some than on others.

Thus a neutral or general tax should be less harmful to Canada's international competitiveness than a selective tax. A test of neutrality is that a tax will not reduce the potential output of the country by inducing a reallocation of resources from more- to less-productive uses. Input taxes, such as those on sales of producers' goods, nonresidential property taxes, payroll taxes, or taxes on business capital income are more likely to fail this test than taxes on outputs. Chapter 3 showed that, of all these taxes, the corporate income tax is the one most responsible for variations in the cost of capital among industries. There is no similar variation in payroll taxes, while property and sales taxes partly offset variations across industries in the corporate income tax. The corporate income tax is thus the one most likely responsible for any misallocation of resources to industries and for missed production opportunities. For neutrality's sake, it has even been suggested that it be abolished.[4]

The conclusion at this point in the argument is, then, that the level of taxation in Canada can deviate from what it is elsewhere so long as the deviation is imposed neutrally. Two qualifications can be attached to the requirement of neutrality. One relates to a belief that Canada can pass its taxes on to non-residents; the other is related to the concept of taxes as fees for government services rendered.

Shifting the Tax Burden Abroad

There are two ways in which the burden of Canadian taxes can be made to fall on non-residents or "exported." One is by using taxes to improve the Canadian terms-of-trade, which might require the Canadian tax system to deviate from principles in general use abroad; the other is by exploiting the foreign tax credits offered by other countries. Moreover, both situations would involve some non-neutralities in taxation.

In theory, taxation can be used to improve Canada's terms-of-trade if one of its export industries has a large share of the world market. In that case, the volume of Canadian exports affects world prices, and export restrictions will raise them. If the Canadian firms in the industry cannot, or will not, collude to bring about such a restriction (or if their self-imposed restriction were thought to be insufficient to exploit their market power fully), applying a tax on their exports would achieve the same result.[5] The most appropriate tax is one directed straight to the goal - that is, an export levy. Failing that, the next-best choice is a tax on the total output of the exporting industry.

Theory apart, however, the role for a special tax on exports is limited to very special cases (such as the recent tax on Canadian softwood lumber to the United States). Canada does not have sufficient market power in any of its principal export commodities to affect world prices. Indeed, for many exports Canada's share of the world market has fallen in recent years.[6]

Collecting User Fees for Government Services

Another reason for exporting taxes seems more acceptable than the sheer exercise of market power. A country's export goods embody inputs provided by its government, and those costs should ultimately be borne by the final purchaser, resident or not. Export industries should therefore be taxed to cover the costs of government services, the benefits of which go to non-residents, and to the extent that one government provides more or better service than another, tax systems and rates should vary from one country to another.

The argument has logical merit. A country's commerce could not thrive without its courts' enforcement of contracts, its roads, and many other government-provided items of the social infrastructure. These can be regarded as inputs to exports, so the exporters' share of the costs should be reflected in their prices. It would seem to follow that international variations in tax systems are both efficient and equitable to the extent that they reflect underlying differences in government input to commerce.

In practice, unfortunately, such a view would involve a fine-tuning of taxes to services, which is seldom possible or desirable. To regard any tax as a fee for service, one would have to be able to identify the service and its user, and to estimate the cost, so as to assess the fee. Production decisions are determined not only by the level of taxes but also by the point at which a tax lever is applied, and in a discussion of taxes as fees for service, the latter is as important as the former. Thus it is not enough to balance the government budget. In addition, taxes that are meant to be fees for service would have to be imposed at the point in the production process where the service was provided.

The conditions for efficient application of the concept of government as a special service to the export trade are thus too onerous for practical application. Indeed, most countries make no such attempt but exempt their exports at least from those taxes directly related to their volume, such as sales and value-added taxes.

The Exploitation of Foreign Tax Credits

The most usual exporting of taxes occurs when a tax paid in one jurisdiction is deducted or credited in another. This sort of shift is quite common in countries with several levels of government. In Canada, for instance, nonresidential municipal property taxes are partly shifted to provincial and federal governments because the local tax is a business deduction from income taxable at the other levels. Similar transfers of tax revenue occur between national governments.

The transfer of tax revenue is smoother when taxes paid to the host earn the taxpayer a credit against taxes due at home instead of a deduction from income taxable there. Moreover, the credit device can give a host country a way to raise its tax revenues without increasing the total tax burden on foreign companies operating within its jurisdiction. If the taxes they pay the host country are fully credited but less than the amount due in taxes to the home country, an increase in the host country's taxes will not raise their total tax burden. In the home country, it will raise only their foreign tax credits and reduce the balance of taxes due. Thus, within limits, a host country can increase its tax revenue without scaring away foreign capital.

This possibility gives the host country an incentive to: a) raise its tax rate to the level in the home country of most of its foreign-owned firms, so that both tax systems would become more similar;[7] and b) substitute creditable taxes for deductible ones. In analyzing the implications of these and other aspects of tax credits, we shall focus on the Canadian reality. The home country involved is most often the United States, and thus Canadian policymakers would usually consider its tax system in setting their own.

The United States grants tax credits for only those foreign taxes that are similar in substance and form to an income tax. A U.S. corporation operating in Canada receives no credits for what it pays in property and sales taxes or in resource royalties (instead, the taxpayer takes corresponding deductions). Thus it may be worth considering whether or not such taxes should be reduced and the revenue loss made up by increasing the corporate income tax, for which the United States grants credit. Such a conversion of deductible taxes into creditable taxes might create an added incentive for U.S.-based companies to invest in this country, without any Canadian sacrifice of revenue. Such a move would also increase the convergence of the two tax systems, in that they would be putting similar emphasis on their various revenue sources or would employ the same "tax mix." In fact, Canada has moved its tax mix in the opposite direction, raising proportionately more revenue from noncreditable sales taxes, resource royalties, and provincial capital taxes than does the United States. As a result, the total burden of taxes may be heavier on foreign-owned firms than on Canadian businesses. One cost of this discrimination is the loss of some opportunity to export taxes, making the tax burden on Canadians higher than it would be otherwise.

Of course, the opportunity to export taxes through the credit mechanism may not exist because the condition for it - that foreign companies be able to take higher foreign tax credits in their home country - may not obtain in practice. Working against its presence are two factors outside Canada's control. First, the U.S. foreign tax credit has an overall limitation (without a per-country limitation such as Canada's). Thus high income-tax rates imposed by third countries on a U.S. multinational can exhaust the difference between the U.S. taxes levied on its Canadian-source income and the lower Canadian taxes on the same income. In such a case, an increase in Canadian taxes would result in excess U.S. foreign tax credits. Second, the United States taxes foreign profits only on their repatriation. Since deferring a tax is equivalent to obtaining a tax reduction, U.S. companies have an incentive to retain foreign profits in the country where they are earned (an incentive that reinforces their tendency to plough back earnings instead of distributing dividends).

Whether U.S. companies in Canada accumulate excess tax credits or defer profit repatriation, the result is the same: the Canadian tax becomes the relevant one for calculating the cost of capital employed in this country. A Canadian tax increase or a U.S. tax decrease would deter some U.S. investment in Canada. The likelihood of deterrence is increased by the recent reduction of U.S. federal corporate-income tax rates from 46 to 34 per cent (the statutory Canadian rate on manufacturing and processing profits is 40 per cent). The average effective Canadian rate of tax on the profits of subsidiaries of U.S. corporations can fall below the statutory level for a variety of reasons, but if it were to be above 34 per cent, U.S. corporations with subsidiaries in Canada would begin to accumulate excess tax credits and face a higher tax rate in Canada than in the United States (neglecting state taxes and Canadian withholding taxes, for simplicity). Against this situation may be set the fact that the broadening of the U.S. federal corporate-income tax base makes Canadian investment in the United States less attractive and U.S. investment in Canada more attractive.

Opinions diverge on the question of Canada's ability to exploit the U.S. foreign-tax-credit system and raise its taxes to the U.S. level without an adverse effect on U.S. investment in Canada. On the one hand, U.S. firms have tended to repatriate their income in such a way that their U.S. tax liability for such income approximately equals their U.S. foreign tax credits;[8] in this case, Canada does not have room to raise taxes without repelling capital. On the other hand, figures have been presented showing the large, worldwide foreign-tax-credit deficits of U.S. corporations operating in Canada.[9] These figures suggest that an increase in Canadian tax is more likely to result in a transfer of income from the U.S. treasury to the Canadian treasury than to produce a net increase of tax burden for the investor. Moreover, the authors of the studies have also estimated relatively large increases in Canadian tax rates that would be required to give the U.S. parents foreign tax credits of the same value as their total U.S. tax liabilities on foreign-source income.[10] Even if this were so, it might not be the case now after the reduction of the U.S. federal corporate-income tax rate from 46 to 34 per cent. Furthermore, such a rate reduction could greatly reduce, if not eliminate, existing tax-credit deficits.

When making estimates of comparative tax burdens on industry, such as those cited in the previous paragraph, one inevitably finds some variance in effective tax rates on industries around their average. Such variance is another obstacle to full exploitation of the foreign tax credits by Canada. Because of non-neutral taxation in virtually every country, some foreign firms in Canada have excess tax credits while others have deficits, depending on whether they are beneficiaries or victims of non-neutralities in the tax systems of their home and third countries. Therefore, to exploit foreign-tax-credit systems more fully, Canadian taxes would have to differentiate among foreign-based firms according to their nationalities and the tax provisions they faced abroad. This is clearly out of the question, but fuller exploitation of foreign-tax-credit systems is possible at the cost of adopting some of the provisions that cause the foreign non-neutralities in taxation.

There is, however, one deviation of Canadian from U.S. tax law that gives Canada the advantages of both U.S. foreign-tax credits and tax deferral. This is the discretion given Canadian taxpayers in the timing of their capital cost allowances and investment tax credits. This discretion - which also gives taxpayers some choice over the timing of their tax payments to Canada - allows Canadian subsidiaries of U.S. corporations to bunch their payment of Canadian taxes for two or more years into a single year and to make this payment coincide with intermittent remittances of dividends to their U.S. parents. The effect of this bunching of Canadian taxes and U.S. dividends into alternate years is to make fuller use of U.S. tax credits while retaining the advantages of lower Canadian tax rates. This makes Canadian tax incentives more effective and less costly to Canada than they would otherwise be.[11]

Tax Arbitrage

Arbitrage, the market's enforcement of the "law of one price," occurs whenever there is an attempt to charge two prices for what is essentially the same thing, including the setting of different tax rates on the income from similar activities.[12] If two countries tax income from capital and if capital is mobile across their border, individuals and firms are likely to rearrange their business and finances so as to maximize their after-tax income. The result is that differences in taxation are significantly reduced. Take, for example, the decision about where to borrow money. Assuming that interest is fully deductible in several countries, a multinational firm operating in all of them compares their tax rates. A dollar of interest paid is a dollar deducted from taxable income. A 50-per-cent rate means a corporation "saves" 50 cents in taxes for every dollar of interest paid; a 30-per-cent rate means it "saves" only 30 cents. In the past, with U.S. tax rates higher than Canadian rates, U.S.-owned corporations would have found debt financing in Canada relatively more costly than equity financing because interest deductions were worth more if made in the United States than if made in Canada.[13]

By borrowing, these corporations have reduced the effective U.S. tax rate on the debt- and equity-financed capital they employ. If the shifts across the border have involved retirement of Canadian debts, the corporations have likewise increased the effective Canadian corporate tax rate on capital income generated in this country. As a result, they have pulled their own effective taxes closer together in the two countries without any change in the amount of capital they employ in one country or the other.

Notice that the reduction of U.S. corporate-income tax rates may reverse the situation, leading Canadian subsidiaries of U.S. corporations to start to borrow more in Canada and make greater deductions of interest from their Canadian taxable incomes. Canada would then lose revenue; the United States would gain (although the extent of such a revenue transfer is limited by the "thin-capitalization rules"[14] in effect in both countries).

Clearly, the tax-policy implications of tax arbitrage are too numerous to detail in this study. To simplify the exposition of just a few, suppose, first, that policymakers decided to lower tax rates in Canada for the purpose of attracting foreign capital. The first impact of the reduction would be not on foreign capital inflows but on the way in which they were financed. Since the worldwide cost of capital would fall, corporations would be likely to employ more capital; and the new investments would likely be made in Canada, where the owners could take further advantage of the new policy. The amount of this new investment, however, might be less than originally expected, because what drove it would be not the Canadian tax reduction relative to capital employed in Canada but the much smaller ratio of the reduction relative to capital employed worldwide. The obvious conclusion is that tax arbitrage can reduce the effect of Canadian tax policy on investment in Canada. A deviation from the tax systems of our major creditors is correspondingly less attractive.[15]

Tax averaging across various countries can even reverse the impact of tax changes. Take a U.S. corporation that has an overall foreign tax credit *equal* to the U.S. tax on its foreign income. If Canada raises its rate of tax but keeps it below the U.S. rate, such a corporation will find itself with excess credits and thus consider the Canadian rate the effective rate on new investment in this country. Now suppose this corporation has been paying 34 per cent in the United States; increasing the

Canadian tax rate from 29 to 30 per cent will reduce this firm's tax on new equity investment from 34 to 30 per cent. Its position relative to its Canadian competitors is correspondingly improved, although still not equally good.[16]

Still another case of tax arbitrage is "treaty shopping": taxpayers seek to make their affairs fall under the provisions of the bilateral tax treaty most favourable to them, even if it is a treaty between two countries in which the same taxpayers would otherwise have no business. The United States is concerned about the effects that this type of avoidance has on its revenues, and the latest Canada-U.S. tax treaty includes measures to curtail treaty shopping. Of course, these measures seek to impede the process of arbitrage or to enforce different tax rates on very mobile capital, and it remains to be seen how effective they will be.

Influence of International Factors on the Design of Canadian Taxes

In summary, we repeat our qualified "yes" to the question of whether Canada should harmonize its income tax system with the systems of its major trading partners. If the main concern is for Canada's competitiveness in world markets, the Canadian tax system may well deviate from the foreign system so long as the deviation is imposed neutrally on Canadian industries. Policymakers should, however, attach little weight to the theoretical possibility of tax-induced improvements in the terms-of-trade or to the idea of taxes as user fees for government service to exports. Hopes of raiding foreign treasuries should similarly be discounted. The exploitation of foreign tax credits may be worth pursuing, but it requires more, not less, tax harmony and even some non-neutralities. Fortunately, the United States is moving toward greater neutrality in taxation but – unfortunately – will also reduce the rate at which it extends tax credits.

Tax arbitrage works to remove the differences that policymakers attempt to create. Thus if changes in tax policy introduce more complexity into the tax law, that complexity may be most of what is left after arbitrage has had its way.

A Consumption Tax: Implications for Foreign Investment

A major theme of this report is whether Canada should switch from an annual-income tax base to some other tax base. The fact that Canada is a small economy open to international trade and capital movements adds a variety of considerations to the choice of bases. The rest of this chapter deals with some of them, focusing first on the broad treatment of non-residents' investment income and then on some mechanisms that could help Canada maintain a consumption tax even if its major partners continued to use income taxes. A consumption tax is chosen here to illustrate the consequences of a clear and sharp deviation from current practice.

Domestic Income Growth and Foreign Investment

Canadians benefit from foreign investment in this country in two principal ways. First, such investment contributes to higher economic activity in the domestic economy and thus raises wage levels (since the application of more capital to the production process raises the productivity of labour). Second, taxes collected on the income from non-residents' investments reduce the tax burden on Canadian taxpayers. Tax reform cannot be contemplated in Canada without considering the taxation of non-resident's investment income.

Clearly, the tax treatment that Canada gives to non-residents' investment income can have major implications for the well-being of residents. Policymakers must recognize, however, that the two effects are largely a trade-off. Any attempt to raise more government revenue by increasing the tax rate on non-residents' capital income may result in a smaller inflow (or even an outflow) of foreign capital and thus lower aggregate activity in the domestic economy. Conversely, a reduction in the tax rate on such income may stimulate the formation of capital via larger inflows but also result in a drop in the amount of government revenue collected on the capital incomes of foreigners. The desirability of changing the tax rate on non-residents' income depends on which effect dominates. It also depends on the extent to which non-residents benefit from a reduction in Canadian taxes on their Canadian-source capital income.

Income Tax for Non-Residents

Some analysts argue that the foreign-tax-credit system in the United States diminishes the trade-off between raising further tax revenues and encouraging foreign investment because, as we have seen, U.S. companies operating in Canada tend to pay less in taxes than what they might get credit for in the United States.[17] This argument would provide a strong incentive to maintain the taxation of non-residents' capital income even if Canada adopted a pure consumption tax system for its residents. The revenue from maintaining the tax on non-residents' income might be regarded as temporary, since a consumption tax might eventually reduce the need for foreign investment. The simulation of a pure consumption tax based on a cash-flow approach, which was described in Chapter 4, indicates that not taxing residents' return to capital would lead to an increase in domestic saving that, in the long run, would be large enough for capital formation in the domestic economy, and even for replacement of capital from foreign sources. Tax revenues now obtained from non-residents' capital income would eventually have to be replaced with increased consumption taxes on residents; yet the increase in output and wages resulting from the additional saving and investment would more than offset this new burden on residents.[18] All this would, however, be a gradual process. During the transition period, when foreign capital was gradually being replaced by domestic savings, taxing the capital income of non-residents would ease the adjustment of domestic residents to the new tax system.

Taxing Residents and Non-Residents

Recently, some analysts have challenged the view of the foreign-tax-credit mechanism and the treasury transfer effect that is behind the recommendation to continue the tax on foreign investors' incomes.[19] They argue that since U.S. taxes are paid only upon repatriation of foreign earnings, corporations that finance investment in Canada from their own Canadian-source earnings retained in this country can benefit from postponing their U.S. tax liabilities. Lower Canadian taxes on Canadian-source income would amount to interest-free loans from the U.S. government to the Canadian subsidiaries as long as they reinvested the tax saving in Canada. If Canadian earnings were never repatriated, a U.S. corporation would defer indefinitely its U.S. tax on Canadian-subsidiary profits. The treasury transfer effect would then be totally inoperative, and the benefits from lowering Canadian taxes on non-residents' capital income would accrue *in full* to the U.S. investors.

In reality, about 60 per cent of U.S. investment income is retained in Canada.[20] Hence the benefit from a reduced Canadian tax on foreign corporations would be divided between the U.S.-owned subsidiaries and the U.S. treasury. Yet even if U.S. investors could appropriate all of the benefits from reducing taxes on their Canadian-source income, the possibility of some deferral of U.S. tax liabilities would provide an incentive for investment in Canada. The existence of such an incentive means that a trade-off remains between stimulating economic activity through increased foreign investment and giving up tax revenues on foreign investment income.

How the benefits of a reduction in taxes on foreign investment income are divided between Canadian subsidiary corporations and their home-country treasuries would be difficult to determine, especially since these proportions would depend on the firms' decisions about the timing of the repatriation of earnings. Consequently, in another simulation of a cash-flow consumption tax reform that covered investment by non-residents, we used the extreme assumption that foreign subsidiaries operating in Canada would reap all the benefits of the reform. In the simulation, Canadian-source investment income of non-residents was permanently exempted from taxation, which amounts to the same thing. The result was a reduction in the cost of capital to foreign subsidiaries, so that their investment in Canada increased up to the point at which the rate of return equaled the after-tax rate when income was taxed. The net rate of return on saving for domestic residents was unchanged, so virtually all of the increase in the capital stock came from inflows of foreign capital. In the long run, the capital stock was larger than in the case where consumption taxes were imposed only on residents; output and wage increases were correspondingly larger as well. In other words, a Canadian cash-flow consumption tax that exempted both residents' and non-residents' capital income from taxation would increase economic activity by more than enough to offset the loss of tax revenue from non-resident investors. The simulation results indicate that the long-run gain to the average individual could be equivalent to an increase of as much as 12 per cent of lifetime income, compared with a maximum of 7 per cent if the exemption were to apply to residents only.[21] (Notice, however, that this second simulation undoubtedly overestimated the gain to the average individual because of an extreme assumption about the recipients of the benefits from the tax reduction.)

Comparing the Alternatives

The simulations also show that the harder it is to substitute capital for labour in the production process, the smaller the additional gain from not taxing non-residents' investment income. With a small degree of substitution, the difference to the average individual amounts to only 0.6 per cent of lifetime income (a gain of 5.6 per cent when non-residents' income is not taxed versus a gain of 5.0 per cent when it is).[22] Although the average individual would be almost as well off under one system as the other, the benefits of the two would differ in kind. With non-residents' income subject to taxation, the simulation shows the average individual benefiting from a rise in the rate of return on domestic saving. With this income not taxed, the rate of return to saving is unaltered, but wages rise because the economy has a larger stock of capital.

With no taxation of non-residents' income, foreigners would control a higher proportion of capital in the domestic economy. Considering that many Canadians value domestic ownership of the country's capital stock, it seems preferable to maintain a tax on non-residents' capital income. This could be accomplished by retaining a corporate income tax system, extending full dividend tax credits to residents, and adopting a personal consumption tax system.

Could Canada Alone Institute a Consumption Tax?

Using a pure consumption tax for Canadian residents might seem superior to using an income tax, but would it work for a small, open economy if most of the rest of the world continued to levy income taxes? The question is a puzzling one. Difficulties arise whenever conflicting tax principles are applied at the same time. Recall the problems created by Canada's simultaneous application of the territorial and residence principles of taxation; unforeseen results prompted complex revisions of the *Income Tax Act*. Presumably relying on a consumption tax in an income-tax world would create a similar situation. Taxpayers would try to play (or arbitrage) one type of taxation against the other so as to escape tax-free. Many writers have noted the administrative and equity problems that would be created by the movement of individuals and their wealth from consumption-tax to income-tax countries. Large sums of money might slip through a wide crack between the two kinds of tax systems.

Canada already has a "departure tax,"[23] but it would not suffice to prevent avoidance of consumption taxes. Tax avoiders would not need to leave the country to consume the products of countries without a consumption tax that had been purchased with money earned in a Canada without an income tax. They could enjoy them in the other countries as tourists not subject to departure tax. The tax net would thus have to include a tax on remittances abroad and tourist expenditures.[24]

Travel and other personal expenditures may be regarded as the minor part of the problem. If Canadian savings were untaxed, savings could leave the country for income-tax countries through ordinary business and investment transactions. Thus a Canadian departure from international practice by adoption of a consumption tax would seem to require a potentially large package of innovations in the taxation of international traffic in goods and money. But there are two other alternatives that could make a Canadian consumption tax compatible with an income-tax world. One would be to impose the consumption tax indirectly through a consumption-type, value-added tax, or its equivalent, such as the proposed business transfer tax. The other would be to disqualify assets held abroad for registration or for tax-deduction of their cost. The latter course would be more in line with current tax law than the indirect tax route, which would require the treatment of imports and exports to be turned on its head.

The indirect tax route is discussed at greater length in Chapter 8. Here we concentrate on what may be its most confusing aspect – namely, the type of border-tax adjustment that is chosen for a sales tax, a VAT, or a BTT. These taxes can be levied at either the origin or the destination of goods and services. If the tax is levied at the origin, the taxes included in consumer prices of goods and services are those of the country of origin. Exports are taxed, and imports are not. Foreign visitors are also taxed (Canadian services to them are considered to be exports). And Canadian tourists abroad cannot claim exemption from foreign sales taxes, if those are also origin-based taxes. Under the destination principle, imports are taxed; Canadian exports and foreign visitors are not. The two methods of taxation are in many ways equivalent, but they are not equally good substitutes for direct taxes on either income or consumption. The origin base of indirect taxes is to be preferred in an economy open to international capital movements.[25]

The relationship between capital flows and commodity trade will explain the role of border-tax adjustments. The excess of savings over investment must equal the excess of exports over imports; otherwise, macroeconomic accounts will not balance. Moreover, an increase in exports over imports augments the base of, and revenue from, origin-based indirect taxes but decreases the base and yield of destination-based taxes. Thus if an indirect consumption tax is based on origin, it cannot be avoided by transferring funds abroad to consume in an income-tax country. Any such transfer would increase, or create a surplus of, exports over imports that raised the yield of an origin-based consumption tax. If the indirect consumption tax were based on destination, however, foreign expenditures made to avoid a Canadian consumption tax could actually decrease the indirect tax base and increase the advantage to capital-exporting savers. Canadian sales taxes are currently levied under the destination principle, and the contemplated BTT would presumably follow suit. Thus there is currently no border-tax adjustment consistent with an effective consumption tax that would be suitable as a major revenue-raiser, and it is doubtful whether the proper border-tax adjustment will ever be put in place.

The second alternative noted above is to impose the consumption tax directly on the personal sector in

Canada by allowing residents to deduct savings from taxable income. The corporate sector would be excluded from this treatment, considering the relative importance of foreign tax credits and efficiency gains from saving incentives discussed in the previous section. On the personal side, savings invested in assets held abroad should not be deductible.

The distinction between assets held in Canada and abroad parallels distinctions between assets held at arm's and non-arm's length. As a general rule, consumption tax treatment could be extended to foreign assets of residents and Canadian assets of non-residents held at approved Canadian institutions. Income from other assets held directly by an investor would, at best, be exempt. The proper tax treatment of income from various types of assets and the scope for the tax treatment of remaining income are discussed further in Chapter 7.

The tax treatment of foreign-source income of residents under a personal consumption tax could essentially be equal to the current treatment of the tax-exempt surplus of corporations: foreign assets would be held outside registered plans or acquired with tax-prepaid money without a deduction for savings, and foreign earnings would be repatriated tax-free without a foreign tax credit.[26] The exclusion of assets held abroad from registered saving is already a feature of our personal-income tax rules.

With regard to non-resident investors and immigrants, previous treatments of the international implications of consumption tax reform contemplated tax-free rollovers of immigrants' assets into registered saving plans[27] – an approach that is consistent with the deemed disposition of emigrants' assets in such plans and a departure tax. Likewise, it would be possible to allow non-resident portfolio investors to register assets they held in Canada at arm's length (so long as their remittances from Canada were taxed). Non-residents could thus receive a form of consumption-tax treatment, provided they invested in qualified Canadian assets. Foreign bondholders could continue to receive tax-free interest on Canadian bonds, which would be equivalent to the consumption-tax treatment of income from unregistered assets.

A Lifetime-Income Tax

We noted in the previous section that the Canadian tax system already has many consumption-tax elements in its treatment of resident and non-resident individuals and corporations. This impression is strongest when attention is concentrated on tax-exempt surpluses of Canadian corporations, on foreign bondholders, and also on the treatment of owner-occupied housing and personal assets qualifying for the interest and dividend deduction. The forced deregistration of pension savings at age 71 or upon death, however, makes the treatment of personal savings closer to an income tax than a consumption tax, since deregistered assets are taxed regardless of whether they are saved or consumed. While closer to an income tax, the treatment of registered savings is, of course, not exactly as it would be under an annual-income tax. Were it not for limits on contributions to registered plans, this aspect of the Canadian tax system could be called a lifetime-income tax. Such a tax could provide most of the advantages of a consumption tax but yet pose few international tax problems, since it would still be an income tax. Indeed, there should be no new international problems created by further steps in the direction of a lifetime-income tax. The withholding tax on the transfer abroad of registered assets is already in place. The design of tax rules such as this one need not be affected merely by a relaxation of limits on registered saving; indeed, it was not affected by the last increase in allowed contributions to registered plans.

Conclusion

Theoretically, Canada could adopt a pure cash-flow consumption tax system; but, practically, for a small borrowing nation in an "income-tax world," there would be significant international consequences. But Canada could well depart from international practice in adopting a lifetime-income tax. By reducing the burden of taxes on saving, it would certainly raise lifetime income for the average Canadian, while increasing the capital stock available to the economy. The provisions of a lifetime-income tax system would, however, have to be applied only to the income of residents from assets held in Canada, while direct investment by non-residents should remain under annual-income tax rules. The design of such a system would involve balancing the potential gains from tax neutrality with the loss of tax credits that such a neutrality might entail.

6 Toward a Neutral Corporation Tax

Many provisions of the Canadian tax system that determine the taxation of capital income cause the system to diverge widely from the ideal of neutrality or even-handedness. Some of these provisions are designed to encourage specific types of investment; others arise from the difficulty of identifying and measuring income, especially during periods of inflation. Obviously there is some room for argument about the desirability, or undesirability, of the various incentives and allowances embodied in the tax system. It is doubtful, however, whether the overall outcome, as reflected in the pattern of marginal effective tax rates, was ever intended by anyone. Most of the unintended side effects of a non-neutral tax system, if they do not severely distort the allocation of capital in the economy, at the very least divert resources to tax-avoidance activities. At the same time, tax incentives and allowances also render the tax system excessively complex.

According to the simulations of the non-resource corporate sector reported in Chapter 3, most of the wide dispersion in marginal effective total-tax rates – by asset, by method of finance, and therefore by industry – can be attributed to certain features of the corporation tax system. These features are the investment tax credit, the provision of accelerated depreciation allowances for machinery, and the provision of more-generous tax treatment to debt-financed investments than to equity-financed investments. The effect of these tax provisions is to favour firms and industries that are highly leveraged and that invest relatively heavily in machinery – an effect that is exacerbated by high statutory corporation-tax rates. The remaining disparities in marginal effective tax rates arise from the preferential statutory tax rates that apply to small businesses and to firms engaged in manufacturing and processing; from differences in statutory tax rates between provinces; from inadequate integration of corporation and personal taxes; and from sales and property taxes levied on capital inputs.

This chapter examines a variety of policy proposals for reforming the corporation tax. The proposals are designed to reduce the dispersion in marginal effective tax rates and thereby make the corporation tax more neutral. Greater tax neutrality necessarily implies less use of the corporation tax as a tool for influencing the allocation of capital and more emphasis on its role as a device for raising revenue. We shall begin, therefore, by discussing the role that a corporation tax would play in a neutral tax system. Then we shall explore two broad approaches to the problem of accommodating the corporation tax to the concept of neutrality: the adoption of reforms that would increase the neutrality of the present, largely income-based corporation tax; and – a more fundamental remedy – the adoption of a cash-flow corporation tax.[1] The federal Department of Finance appears to favour the former alternative; the Macdonald Commission suggested that the latter be considered.[2] Since the corporation and personal tax systems ought to be consistent with each other, we shall also consider alternative designs for the personal tax.

The Role of the Corporation Tax

Given the way in which the existing corporation tax distorts the pattern of investment incentives, one might well ask whether any form of corporate income taxation could have a role in a neutral tax system.[3] Why not rely exclusively on the personal income tax to raise revenue and thereby eliminate the non-neutralities in both investment and saving decisions associated with the existing corporation tax?

In fact, there are at least four important reasons for relying on the corporation tax as a source of tax revenue. First, it serves as a withholding tax for some forms of capital income that would escape full taxation at the personal level.[4] For example, without a corporation tax it could be difficult to tax capital income received by foreigners investing in Canadian companies or by foreign companies investing in their Canadian subsidiaries. Second, it is a convenient way of taxing the rents or pure economic profits of companies. A corporation tax will not distort investment or saving decisions if it is purely a withholding tax or profits tax. Either type of tax will also be neutral with respect to risk-taking, provided that full-loss offsetting were allowed. On the other hand, in the absence of perfectly efficient capital markets, the corporation tax can facilitate risk-taking. Finally, it can also be used to influence the allocation of capital within the private sector.

. . . *as a Withholding Tax*

Under a withholding tax, tax is collected at the source, and income is distributed to individuals after deducting the amount of tax to be withheld. Canada's current corporate income tax can be viewed as such a withholding tax. An alternative method of taxing corporate income would be to tax equity income only in the hands of shareholders once it was distributed to them in dividends. Not all corporate equity income is distributed in dividends, however. Moreover, in the absence of a corporate income tax, shareholders could vote to retain all of their earnings in a corporation and, by thus postponing income distributions to themselves, also postpone the tax on their equity income. In the face of this possibility, a separate corporate income tax exerts a useful withholding function.

A corollary of withholding is that shareholders should get credit for taxes already withheld, which is the rationale for the dividend tax credit granted to taxpayers resident in Canada. Shareholders are, however, often individuals or corporations resident in foreign countries, notably the United States. Under U.S. tax law, a shareholder can get U.S. tax credits for corporate income taxes paid to foreign governments up to the amount that would have been due to the United States had the income been earned there. Therefore, if Canada were to significantly reduce, or abolish, the tax on corporate equity income, Canadian tax revenues would fall while the revenues of other countries would rise. The foreign countries would be relieved of their obligation to give credits to the extent that Canadian taxes were reduced, and foreign shareholders would find that the loss of credits had offset the tax reduction in Canada. Thus a reduction in Canadian corporate income taxes would result in no gain to nonresident shareholders but in a gain to foreign governments. Since nonresident shareholders would gain an incentive to postpone dividend remittances from Canada, however, this is not an argument against a tax reduction but, instead, one for caution in assessing the effects of such a reduction. Further, it may be unwise to run the corporate tax as a pure withholding tax, because that would mean perfect integration of corporate and personal taxes without any double taxation of dividend income. Achieving more complete integration would require mechanisms of a kind that would reduce the amount withheld at source from nonresident shareholders. Thus we do not propose closer integration mechanisms but only the extension of the existing integration to savings and pension plans, as discussed elsewhere.

The withholding tax discussed here is not to be confused with the one that applies to wages, salaries, interest, dividends, and other income paid to non-residents. This non-resident's tax on interest is reduced to zero for certain types of bonds and deposits; the tax on dividends is over and above the tax on corporate equity income. The non-resident's withholding tax could be the only tax on the equity income of non-residents levied by Canada if the corporation income tax were either abolished or transformed into a pure withholding tax by the creation of a perfect integration mechanism.

. . . as a Tax on Pure Profits

If the corporate tax base could be restricted to pure economic profits or economic rents,[5] the corporation tax would not affect investment decisions. Pure economic profit or rent is the difference between the accrued revenue of a firm and the full imputed cost of producing that revenue. Unfortunately, imputed costs, such as the true rate of economic depreciation and the real cost of financing, are not readily observable and are therefore difficult to calculate.

A tax that would be equivalent to a tax on pure economic profits or rents in present-value terms and much simpler to administer is a cash-flow tax. The base for this tax is simply the difference between receipts from the sales of goods and services and the purchases of inputs required in the production process, including purchases of capital goods. At the same time, a cash-flow corporation tax would not permit any deduction for the financing of investment, notably interest payments. A cash-flow corporation tax would thus differ from the present corporate income tax in a number of important respects. All forms of investment would be expensed immediately; that is, there would be a 100-per-cent write-off of investment expenditures in the year they were undertaken. Interest payments would no longer qualify as a deduction for corporation tax purposes, and no credit would be allowed for corporation taxes paid on dividends. Under a cash-flow corporation tax, therefore, it would no longer be necessary to calculate true economic depreciation or to make an adjustment for the effects of inflation. Since only cash flows, which are easily observed, enter the tax base, tax neutrality would be much easier to accomplish under a cash-flow tax than under an income tax. Given the immediate expensing of investment expenditures, however, there would still have to be provisions for the full offsetting of losses; otherwise, the tax would not be neutral with respect to risk-taking.

. . . as an Instrument in Risk-Sharing

Under a corporation tax that allows a firm to offset its losses, the government becomes, in effect, a nonvoting shareholder in the firm, since it shares in the losses as well as the gains from corporate investment. The government's assumption of a part of the risk reduces the variability of the returns on investments earned by other shareholders and thus reduces the riskiness of new investments. If the government can spread risk more easily than private investors, then its assumption of part of the risk associated with new investments will improve the allocation of capital in the economy. On the other hand, if the government cannot spread risk any better than the private sector, there will be no improvement in the allocation of capital. Hence the importance of the risk-sharing role of the corporation tax depends on the degree to which capital markets enable firms and individual investors to diversify their investment activities and thereby pool their risks. Although capital markets are reasonably efficient in this regard, they tend to be much less accessible to small businesses than to large ones. The fact that issues of new shares involve economies of scale may be one reason for this state of affairs. It is also possible that creditors view the information on the prospects for small firms as being inherently less reliable than information about large ones. In any case, the fact that a small firm's access to capital markets is limited means that it is likely to depend heavily on the equity finance provided by a small number of owners, who will not be able to pool their risks adequately. Consequently, the government may have a useful role to play in facilitating risk-taking by small firms.

. . . as an Instrument of Public Policy

The corporation income tax can also be used by the government in a non-neutral fashion to influence the allocation of capital within the private sector by imposing it so as to affect the profitability of marginal investments. Such influence would not be possible with either a pure-profits tax or a withholding tax. The former tax would have no effect on the profitability of marginal investments; the latter would affect the marginal profitability of new investments in various assets and industries in a nondiscriminatory manner.

The Existing Corporation Tax

The present corporation tax is, to be sure, neither a perfect withholding device nor a tax on profits or rents alone. Rather, it is a tax on the equity income earned by corporations, with limited withholding features, that the government has used to influence private investment decisions. Nevertheless, it would be possible to turn the corporation tax into a more neutral withholding tax and perhaps, in addition, to apply a cash-flow tax to industries in which economic rents are large, such as those involved in resource extraction.

The remainder of this chapter uses a series of "counterfactual" experiments to examine a wide range of proposals designed to increase tax neutrality. These experiments involve the recomputation of marginal effective tax rates for various changes in the tax code, and they ignore any behavioural responses to changes in marginal effective tax rates by either firms or individuals. The corporation tax system is the main subject of the experiments because it is the main source of variation in marginal effective tax rates as far as corporate investment income is concerned. In view of the high degree of integration of corporation and personal taxes, however, we shall also examine the impact of changes in the corporation tax on marginal effective total-tax rates, which encompass both corporation and personal taxes.

A Cash-Flow Corporation Tax

The most desirable tax system, from a neutrality standpoint, consists of a) a cash-flow corporation tax, under which all investment outlays would be immediately expensed ("free" depreciation) and interest payments would not be deductible;[6] and b) a personal consumption tax. A tax system of this kind has been advocated by the report of the Meade Committee in the United Kingdom and considered worth exploring by the *Report* of the Macdonald Commission in Canada.[7] In this section, we explore the possibilities of such a system.

A comparison of the first and second columns of Tables 6-1 and 6-2 shows that immediate expensing (with negative tax payments, where required) would dramatically reduce marginal effective tax rates and significantly increase their dispersion. By contrast, as column 3 shows, if interest payments on corporate debt were no longer tax-deductible, marginal effective tax rates would rise sharply, and the dispersion in tax rates would markedly decline.[8] Finally, as column 4 shows, a cash-flow corporation tax that combined these two features would eliminate any dispersion in marginal effective corporation-tax rates simply because the rates would be zero for all categories of investments. Note that a zero marginal tax rate does not mean that recipients of capital income escape tax. Under a cash-flow corporate tax, companies would pay taxes on the pure profits earned on inframarginal investments.

Replacement of the existing predominantly income-based personal tax by an expenditure tax would reduce the combined corporation and personal effective tax rates (column 5 of Table 6-2). Although a switch to an expenditure tax would ensure tax neutrality at the personal level, in the absence of any change in the corporation tax it would actually increase the variation in marginal effective total-tax rates. As we shall see later in this chapter, this would happen because some of the non-neutralities in the present personal tax system offset the non-neutralities in the corporation tax system.

Table 6-1

Marginal Effective Corporation-Tax Rates under a Cash-Flow Corporation Tax

	1985 tax rates (1)	Free depreciation (2)	No interest deductibility (3)	Cash-flow corporation tax (4)	Total package (5)
			(Per cent)		
Industry					
Construction	9.2	−27.1	37.3	0	0
Transportation	13.4	−43.1	39.4	0	0
Storage	4.1	−53.2	41.4	0	0
Communications	13.3	−51.0	47.6	0	0
Gas distribution	17.0	−44.4	48.5	0	0
Trade	6.2	−37.1	38.0	0	0
Commercial services	−0.5	−43.4	31.5	0	0
Manufacturing	−3.0	−49.6	26.5	0	0
Asset					
Machinery	−12.2	−54.4	20.9	0	0
Buildings	12.3	−47.0	41.0	0	0
Inventories	19.0	−24.9	46.2	0	0
Method of finance					
Debt	−40.6	−104.3	34.1	0	0
New-share issues	33.2	−5.3	33.2	0	0
Retained earnings	33.4	−5.0	33.4	0	0
Owner					
Households	4.4	−43.8	33.7	0	0
Tax-exempt institutions	−0.1	−50.0	33.7	0	0
Insurance companies	−8.8	−61.7	33.8	0	0
Overall tax rate	3.5	−45.2	33.7	0	0
Weighted standard deviation	41.3	52.5	14.5	0	0

SOURCE M. J. Daly, J. Jung, and T. Schweitzer, "Toward a neutral capital income tax system," *Canadian Tax Journal* 34, no. 6 (November-December 1986), Table 9.

On the other hand, the combination of a personal expenditure tax and a cash-flow corporation tax would reduce both corporation and personal marginal effective tax rates on capital income to zero and thus eliminate the dispersion in tax rates caused by the existing corporation and personal tax systems (see column 6 of Table 6-2).[9] The combination would therefore also eliminate the double taxation of savings associated with the present tax system, so that the choice between present consumption or saving for future consumption would no longer be distorted.[10] Moreover, if personal taxes were tied to expenditure and if corporation taxes were tied to cash flows, the problem of capital income indexation would be entirely avoided.

Although the combination of a cash-flow corporation tax with a personal expenditure tax is attractive from a tax-neutrality standpoint, there are, unfortunately, major obstacles to a tax system of this kind. The most important obstacle in a net capital-importing country like Canada involves the uncertainty over the creditability of such a tax under a foreign tax system – particularly that of the United States, Canada's principal source of foreign capital. The greater the divergence between Canada's corporation tax base and those of countries investing here, the less likely are Canadian taxes on foreign-owned companies to be offset by foreign tax credits. This situation would tend to discourage foreign investment in Canada unless our tax treaties were renegotiated and unless foreign tax laws were amended, perhaps, to allow a degree of crediting similar to that which is currently permitted.[11] In view of the fact that it took about 10 years to conclude the existing Canada-U.S. tax agreement, both governments would probably be reluctant to renegotiate the treaty in the immediate future.

It is by no means clear, however, that cash-flow corporation taxes paid in Canada by foreign investors would be noncreditable under foreign tax systems. In

Table 6-2

Marginal Effective Total-Tax Rates (Corporation plus Personal) under a Cash-Flow Corporation Tax and a Personal Expenditure Tax

	1985 tax rates (1)	Free depreciation (2)	No interest deductibility (3)	Cash-flow corporation tax (4)	Personal expenditure tax (5)	Total package (6)
				(Per cent)		
Industry						
Construction	36.8	7.4	57.4	26.5	8.4	0
Transportation	36.6	– 11.2	55.7	21.5	12.3	0
Storage	32.5	– 14.1	59.8	25.0	3.3	0
Communications	38.1	– 15.4	63.3	22.2	12.4	0
Gas distribution	40.5	– 10.8	63.7	21.5	15.9	0
Trade	33.9	– 1.5	57.2	25.3	5.3	0
Commercial services	28.6	– 6.4	52.1	25.7	– 1.4	0
Manufacturing	22.6	– 16.8	44.2	21.2	– 4.4	0
Asset						
Machinery	16.0	– 19.4	40.3	22.5	– 13.6	0
Buildings	36.8	– 12.9	57.9	22.5	11.3	0
Inventories	43.1	6.7	63.0	23.7	18.1	0
Method of finance						
Debt	8.6	– 38.1	63.4	38.4	– 40.6	0
New-share issues	44.4	9.8	44.4	14.6	30.9	0
Retained earnings	43.5	6.6	43.5	11.7	31.6	0
Owner						
Households	35.4	– 3.3	55.4	27.5	4.4	0
Tax-exempt institutions	– 0.1	– 50.0	33.7	0.0	– 0.1	0
Insurance companies	– 10.8	– 65.9	24.4	– 13.4	– 43.6	0
Overall tax rate	29.4	– 11.2	51.6	22.7	2.3	0
Weighted standard deviation	28.1	34.0	19.4	19.3	41.7	0

SOURCE Daly et al., "Neutral capital income tax system," Table 10.

the United States, Treasury Regulation S1.901-1 states that a foreign tax is creditable only if it is based on "realized net income" and thus allows the recovery of significant costs and expenses, notable among which are interest payments. Under the type of cash-flow corporation tax base discussed up to this point, which was called an "R base" in the Meade Committee report, interest expenses would not be deductible.[12] Nevertheless, U.S. Treasury regulations also state that the non-deductibility of some expenses may be allowed, provided that other compensatory expenses are permitted. This would indeed be the case with the R-based cash-flow tax because the immediate 100-per-cent write-off for all investment expenditures constitutes full expensing, which is equivalent to properly formulated depreciation allowances and interest deductibility.

One could also argue that what ought to matter is the after-tax income patriated to the United States and thus subject to U.S. taxes. If the tax rate levied on corporate cash flows in Canada were set at a level that resulted in roughly the same amount of after-tax income being patriated by U.S. investors as at present – so that the cash-flow tax could be presented as a charge that is a substitute for, and comparable to, the existing corporate income tax – then the cash-flow tax could perhaps be declared creditable under U.S. Treasury regulations that allow for compensatory provisions. Interestingly, the fact that the overall marginal effective corporation-tax rate was 3.5 per cent in 1985 (see column 1 of Table 6-1) suggests that the corporate-income tax base may actually have been similar in average size to a cash-flow tax base. With the latter, the overall marginal effective corporation-tax rate would, of course, have been zero.

Changes in the treatment of interest receipts and payments associated with an R-based cash-flow tax could raise some other problems. Immediate disallowance of interest expenses could lead to difficulties for some highly leveraged companies where the more generous capital cost allowances resulting from immediate expensing would not be enough to compensate for the loss of interest deductions. This, of course, would be a transitional rather than long-term problem, but a long-term problem does arise with respect to financial institutions. Since the net receipts of interest by a company would no longer be taxable, banks and similar financial institutions would be tax-exempt unless they were required to cast their accounts in an appropriate fashion or were taxed under some system independent of the R base.

All of the foregoing problems associated with an R-based cash-flow corporation tax could be addressed by adopting an alternative type of cash-flow base, which the Meade Committee referred to as the "R + F base."[13] This base corresponds to the excess of inflows over outflows of funds with respect to "financial" as well as "real" transactions. It would include the proceeds from net borrowing, while net interest payments would be deductible.

An R + F base would have a number of advantages over an R base. If the non-deductibility of interest expenses under an R-based cash-flow corporation tax constituted a genuine obstacle to the creditability of such a tax in the United States and elsewhere, an R + F base might be a viable alternative. In addition, an R + F base could be achieved gradually in a step-by-step process and appear more like a development of the present system than a radical and unfamiliar change. For example, the 100-per-cent write-off for capital expenditures and the inclusion of net borrowing in the tax base could be phased in together so as not to impose a sudden extra burden on highly leveraged companies. An R + F-based tax would also cover financial institutions. It is noteworthy that a cash-flow tax of this kind was recently recommended in the United Kingdom by the Confederation of British Industry.[14]

We conclude, therefore, that the obstacles to Canada's possible adoption of a cash-flow type of corporation tax are not nearly as formidable as has sometimes been suggested.

Recent Federal Initiatives

The current debate in Canada about the need to reform the existing corporation tax system was prompted by the 1985 federal budget. A discussion paper from the Department of Finance, which was tabled with the budget,[15] proposed a number of changes in the system, including: a reduction in capital cost allowances (CCAs), abolition of the investment tax credit (ITC), except in a few special cases including expenditures on scientific research; removal of the 3-per-cent inventory allowance; and a cut of 7 percentage points in the basic federal statutory corporation-tax rate. In addition, the budget itself announced plans to phase in a lifetime exemption of $500,000 for capital gains under the personal income tax.

All of the proposed changes, apart from the removal of the inventory allowance, would decrease the variation in marginal effective tax rates under both the corporation tax alone and the corporation and personal taxes considered together (see Tables 6-3 and 6-4). Much of the decrease would arise from the reduction in CCAs and the abolition of the ITC, which together would substantially reduce the tax system's bias in favour of investment in machinery. The cut in the statutory corporation-tax rate would result in an even greater decline in tax-rate dispersion, mainly because of the attendant rise in the marginal effective tax rate on returns to debt-financed investments resulting from the reduced value of the deduction for interest expenses. On the other hand, removal of the inventory allowance would slightly increase the variation in tax rates, since it would increase the tax rate on returns to investment in inventories relative to the tax rate on returns from machinery and buildings.

Not surprisingly, the new capital gains exemption has no significant impact on marginal effective corporation-tax rates. Because the exemption brings the combined corporation and personal tax rate on capital gains more into line with the rate on interest income, however, it does reduce the variation in marginal effective total-tax rates. Unfortunately, the exemption also destroys the balance previously achieved in the taxation of dividends and capital gains, since it reduces the tax rate on the latter relative to the tax rate on the former. Consequently, it provides taxpayers with an incentive to devise some means of converting dividend income into capital gains.[16]

Partial implementation of the proposals in the 1985 discussion paper was realized in a package of measures introduced in the 1986 federal budget.[17] The measures included: immediate elimination of the inventory allowance; the phasing-out of the ITC by 1989; except in a few special cases and designated areas; and a gradual reduction in statutory corporation-tax rates over the next three years.

In addition, the budget reduced the dividend tax credit from 50 to 33.3 per cent, effective January 1, 1987, and imposed a 3-per-cent federal surtax on both corporate and personal income. The combined effects of all these

Table 6-3

Marginal Effective Corporation-Tax Rates under Various Department of Finance Proposals

	1985 tax rates	Reduced capital cost allowance (1)	No investment tax credit (2)	No inventory allowance (3)	Reduced corporate tax rate (4)	Capital gains exemption (5)	Total policy package (6)
				(Per cent)			
Industry							
Construction	9.2	12.7	9.6	10.0	7.4	9.2	10.9
Transportation	13.4	13.7	16.2	13.4	10.8	13.4	14.0
Storage	4.1	4.6	5.7	8.0	4.1	4.1	9.0
Communications	13.3	13.5	13.3	13.3	11.8	13.2	12.0
Gas distribution	17.0	17.0	17.0	17.2	15.1	16.9	15.2
Trade	6.2	7.0	6.9	14.0	5.7	6.1	12.9
Commercial services	−0.5	1.6	1.0	−0.3	−0.1	−0.6	3.0
Manufacturing	−3.0	5.8	4.4	0.1	−3.0	−3.1	13.3
Asset							
Machinery	−12.2	−1.8	−5.1	−12.2	−10.6	−12.3	4.1
Buildings	12.3	12.3	14.8	12.3	10.3	12.2	12.9
Inventories	19.0	19.0	19.0	31.9	16.3	19.0	26.2
Method of finance							
Debt	−40.6	−35.2	−35.9	−36.7	−31.8	−40.6	−20.7
New-share issues	33.2	37.0	36.6	35.4	26.2	33.2	34.5
Retained earnings	33.4	37.1	36.7	35.6	26.4	33.2	34.5
Owner							
Households	4.4	8.8	8.3	7.3	3.6	4.4	12.9
Tax-exempt institutions	−0.1	4.4	3.9	2.9	0.1	−0.1	9.6
Insurance companies	−8.8	−4.2	−4.7	−5.7	−6.8	−8.8	3.1
Overall tax rate	3.5	7.8	7.3	6.3	2.8	3.4	12.2
Weighted standard deviation	41.3	37.8	38.8	42.2	33.0	41.2	29.2

SOURCE Daly et al., "Neutral capital income tax system," Table 11.

measures on marginal effective corporation-tax rates and marginal effective total-tax rates are shown in Tables 6-5 and 6-6.

Although on balance the changes reduce the dispersion in tax rates, they increase the dispersion in two areas. Abolition of the inventory allowance increases the difference between the tax rate on inventories and the rates on machinery and buildings. The reduction in the dividend tax credit increases the personal tax rate on investments financed with new-share issues relative to the rate on investments financed by debt or retained earnings. Thus it reinforces the incentive provided by the 1985 budget's capital gains exemption to convert dividends into capital gains.

It is also noteworthy that measures in the 1986 federal budget increased the marginal effective corporation-tax rate on investment income from 3.5 to 9.6 per cent and the marginal effective total-tax rate on corporate investment income from 23.7 to 30 per cent. These increases in marginal effective tax rates would tend to reduce investment in the corporate sector as a whole and discourage saving.

The changes introduced in the 1986 budget indicate that the federal government has decided to increase the degree of neutrality in the tax treatment of capital income by restructuring the corporate income tax. At the same time, the government has also declared its intention to relax the limits on RRSP contributions considerably – a step that would constitute a further movement in the direction of a personal expenditure tax.

Obviously, a personal expenditure tax would not significantly affect the pattern of marginal effective

Table 6-4

Marginal Effective Total-Tax Rates (Corporation plus Personal) under Various Department of Finance Proposals

	1985 tax rates	Reduced capital cost allowance (1)	No investment tax credit (2)	No inventory allowance (3)	Reduced corporate tax rate (4)	Capital gains exemption (5)	Total policy package (6)
				(Per cent)			
Industry							
Construction	36.8	39.7	37.2	37.4	34.9	32.5	33.3
Transportation	36.6	36.9	39.0	36.6	33.9	30.6	30.4
Storage	32.5	32.9	33.8	35.6	31.9	27.8	31.1
Communications	38.1	38.3	38.1	38.1	36.2	32.6	30.6
Gas distribution	40.5	40.5	40.5	40.7	38.4	34.8	32.5
Trade	33.9	34.5	34.4	40.2	32.9	29.1	34.1
Commercial services	28.6	30.3	29.8	28.7	28.4	23.8	26.1
Manufacturing	22.6	30.1	28.9	25.3	22.1	16.1	29.6
Asset							
Machinery	16.0	24.8	22.0	16.0	16.8	9.7	23.2
Buildings	36.8	36.8	38.9	36.8	34.5	31.1	31.0
Inventories	43.1	43.1	43.1	53.7	40.3	38.1	43.5
Method of finance							
Debt	8.6	12.6	12.1	11.5	15.1	8.6	23.2
New-share issues	44.4	47.8	47.5	46.4	38.7	44.4	46.1
Retained earnings	43.5	47.0	46.7	45.5	37.1	32.2	33.8
Owner							
Households	35.4	39.0	38.6	37.7	33.8	28.5	34.6
Tax-exempt institutions	−0.1	4.4	3.9	2.9	0.1	−0.1	9.6
Insurance companies	−10.8	−5.8	−6.4	−7.5	−3.7	−10.8	6.4
Overall tax rate	29.4	33.2	32.7	31.8	28.3	23.7	30.5
Weighted standard deviation	28.1	24.9	25.9	29.3	22.5	25.5	17.0

SOURCE Daly et al., "Neutral capital income tax system," Table 12.

corporation-tax rates (see column 3 of Table 6-7). If undertaken without any changes in the corporate tax system, however, it would exacerbate the existing bias of the corporation and personal tax systems combined in favour of investments financed with debt and against investments financed with retained earnings or new-share issues (see column 3 of Table 6-8). Unless steps were taken to eliminate this bias, a move to a personal expenditure tax alone would lead to even greater variance in marginal effective total-tax (corporation plus personal) rates than exists at present. On the other hand, by lowering marginal effective tax rates on corporate investment income, a personal expenditure tax would also reduce the tax system's bias against saving.

Steps toward Neutrality

Although the Department of Finance proposals would reduce the variation in marginal effective corporation-tax rates, the following measures would further increase the degree of tax neutrality in the treatment of corporate investment income:

- capital cost allowances that reflect true economic depreciation at current replacement cost;
- indexed inventory cost accounting;
- real interest expensing;
- lower and more-uniform statutory corporation-tax rates;
- complete integration of the corporate and personal income tax systems; and
- greater loss offsetting for tax purposes.

The first three measures would amount to full indexation of the corporate income tax; that is, the tax would no longer be sensitive to inflation. The impact that these changes would have on marginal effective tax rates is shown in Tables 6-9 and 6-10. The remainder of this section discusses the proposed measures in detail.

Table 6-5

Impact of the 1986 Federal Budget on Marginal Effective Corporation-Tax Rates

	Marginal rate	
	Before 1986 federal budget[1] (1)	After 1986 federal budget (2)
	(Per cent)	
Industry		
Construction	9.2	9.5
Transportation	13.4	15.1
Storage	4.1	9.2
Communications	13.2	12.8
Gas distribution	16.9	16.4
Trade	6.1	13.6
Commercial services	−0.6	1.3
Manufacturing	−3.1	7.1
Asset		
Machinery	−12.3	−4.2
Buildings	12.2	13.8
Inventories	19.0	29.0
Mode of finance		
Debt	−40.6	−28.1
New-share issues	33.2	35.2
Retained earnings	33.2	35.2
Owner		
Households	4.4	10.5
Tax-exempt institutions	−0.1	6.7
Insurance companies	−8.8	−0.9
Overall tax rate	3.4	9.6
Weighted standard deviation	41.2	35.3

[1] Which included a lifetime capital-gains exemption of $500,000.
Source Daly et al., "Neutral capital income tax system," Table 11.

True Depreciation Allowances at Replacement Cost

In place of accelerated capital cost allowances, the tax system should provide CCAs based on economic depreciation at current replacement cost.[18] This move would bring the marginal effective tax rate on machinery much more into line with the rates on buildings and inventories (see column 2 of Tables 6-9 and 6-10). The resulting decline in the degree of tax-rate variation, as measured by the standard deviation, would be slightly greater than it would be under the Department of Finance's similar proposal, which we examined in Tables 6-3 and 6-4. Note, however, that the relatively generous CCAs accorded to machinery tend to counteract the sales taxes on purchases of capital inputs, which are levied exclusively on machinery. Hence a reduction in CCAs should be accompanied by a removal of the sales taxes levied on purchases of capital inputs.

Table 6-6

Impact of the 1986 Federal Budget on Marginal Effective Total-Tax Rates (Corporation plus Personal)

	Marginal rate	
	Before 1986 federal budget[1] (1)	After 1986 federal budget (2)
	(Per cent)	
Industry		
Construction	32.5	33.0
Transportation	30.6	32.6
Storage	27.8	32.3
Communications	32.6	32.5
Gas distribution	34.8	34.7
Trade	29.1	35.7
Commercial services	23.8	25.7
Manufacturing	16.1	25.3
Asset		
Machinery	9.7	17.2
Buildings	31.1	32.9
Inventories	38.1	46.8
Mode of finance		
Debt	8.6	17.8
New-share issues	44.4	55.6
Retained earnings	32.2	34.4
Owner		
Households	28.5	33.9
Tax-exempt institutions	−0.1	6.7
Insurance companies	−10.8	−0.4
Overall tax rate	23.7	29.4
Weighted standard deviation	25.5	22.4

[1] Which included a lifetime capital-gains exemption of $500,000.
Source Daly et al., "Neutral capital income tax system," Table 11.

Indexed Inventory Accounting

We pointed out in Chapter 2 that in times of inflation the first-in-first-out (FIFO) method of inventory accounting - the method currently used for tax purposes in Canada - overstates taxable income, since inflation tends to increase the nominal value of inventories. This problem would not arise if inventory expenses were based on the actual cost of replacing inventory items rather than on their original cost of acquisition. Indexed inventory accounting could take one of several forms, including last-in-first-out (LIFO) accounting; indexed FIFO; or an inventory allowance that corresponded to the prevailing rate of inflation. According to our simulations, the last approach would lead to a slight drop in the dispersion of marginal effective tax rates (see column 4 of Tables 6-9 and 6-10).

Table 6-7

Marginal Effective Corporation-Tax Rates under the 1985 Department of Finance Proposals with a Personal Expenditure Tax

	1985 tax rates (1)	Department of Finance corporate tax package (2)	Corporate tax package with a personal expenditure tax (3)
		(Per cent)	
Industry			
Construction	9.2	10.9	10.9
Transportation	13.4	14.0	14.1
Storage	4.1	9.0	9.1
Communications	13.3	12.0	12.0
Gas distribution	17.0	15.2	15.3
Trade	6.2	12.9	13.0
Commercial services	- 0.5	3.0	3.1
Manufacturing	- 3.0	13.3	13.3
Asset			
Machinery	- 12.2	4.1	4.2
Buildings	12.3	12.9	12.9
Inventories	19.0	26.2	26.1
Mode of finance			
Debt	- 40.6	- 20.7	- 20.7
New-share issues	33.2	34.5	34.6
Retained earnings	33.4	34.5	34.6
Owner			
Households	4.4	12.9	13.0
Tax-exempt institutions	- 0.1	9.6	9.6
Insurance companies	- 8.8	3.1	3.1
Overall tax rate	3.5	12.2	12.2
Weighted standard deviation	41.3	29.2	29.2

SOURCE Daly et al., "Neutral capital income tax system," Table 13.

Table 6-8

Marginal Effective Total-Tax Rates (Corporation plus Personal) under the 1985 Department of Finance Proposals with a Personal Expenditure Tax

	1985 tax rates (1)	Department of Finance corporate tax package (2)	Corporate tax package with a personal expenditure tax (3)
		(Per cent)	
Industry			
Construction	36.8	33.3	10.9
Transportation	36.6	30.4	14.1
Storage	32.5	31.1	9.1
Communications	38.1	30.6	12.0
Gas distribution	40.5	32.5	15.3
Trade	33.9	34.1	13.0
Commercial services	28.6	26.1	3.1
Manufacturing	22.6	29.6	13.3
Asset			
Machinery	16.0	23.2	4.2
Buildings	36.8	31.0	12.9
Inventories	43.1	43.5	26.1
Mode of finance			
Debt	8.6	23.2	- 20.7
New-share issues	44.4	46.1	34.6
Retained earnings	43.5	33.8	34.6
Owner			
Households	35.4	34.6	13.0
Tax-exempt institutions	- 0.1	9.6	9.6
Insurance companies	- 10.8	6.4	3.1
Overall tax rate	29.4	30.5	12.2
Weighted standard deviation	28.1	17.0	29.2

SOURCE Daly et al., "Neutral capital income tax system," Table 14.

Real Interest Expensing

During inflationary periods, interest rates include an inflation premium to compensate lenders for the fall in the value of the loan principal over time, with the result that interest expenses and interest income are overstated in real terms. In other words, nominal interest payments contain an element of loan-principal repayment. The tax-deductibility of this principal-repayment element under the current tax system encourages debt financing of new investments.

Under a completely indexed tax system, only real interest payments would be tax-deductible at the corporate level (and only real interest receipts would be subject to personal taxes). The value of real interest payments is the interest calculated at the "real" rate of interest (the nominal rate of interest minus the rate of inflation); it can be determined by subtracting from nominal payments the rate of inflation multiplied by the value of outstanding liabilities. As shown in column 3 of Tables 6-9 and 6-10, the variation in marginal effective tax rates would decline quite substantially if only real interest payments were deductible for corporation tax purposes.

Uniform Statutory Corporation-Tax Rates

Greater uniformity in statutory corporation-tax rates (federal and provincial) would require the elimination of the special low rates presently provided for manufacturing and processing activities and for small busi-

Table 6-9

Marginal Effective Corporation-Tax Rates under Alternative Income-Based Tax Proposals

								Total package	
	1985 tax rates (1)	True depreciation at replacement cost (2)	Deductibility of real interest (3)	Fully indexed inventory allowance (4)	No manufacturing and processing deduction (5)	No small-business deduction (6)	Statutory corporate tax = 33.3% (7)	Without investment tax credit (8)	With 5% investment tax credit (9)
					(Per cent)				
Industry									
Construction	9.2	10.4	20.9	1.5	10.5	12.5	9.4	15.0	6.4
Transportation	13.4	13.0	24.3	13.3	13.4	15.5	10.3	21.3	14.6
Storage	4.1	6.1	20.2	2.3	4.1	3.8	4.0	16.8	11.0
Communications	13.3	14.0	29.0	13.2	13.3	13.3	10.0	20.4	13.6
Gas distribution	17.0	17.7	31.6	15.5	17.0	17.1	12.6	21.2	15.5
Trade	6.2	9.5	19.6	1.5	6.2	6.2	5.9	16.4	10.8
Commercial services	−0.5	3.4	12.2	−0.7	−0.5	−1.1	−0.4	16.0	6.5
Manufacturing	−3.0	12.7	8.1	−4.8	−3.3	−3.1	−3.0	21.5	14.8
Asset									
Machinery	−12.2	8.0	−0.2	−12.2	−13.5	−12.9	−10.5	20.0	11.1
Buildings	12.3	10.6	24.7	12.3	12.9	12.9	9.4	19.9	14.0
Inventories	19.0	19.0	31.4	10.0	20.1	20.7	16.5	18.6	14.3
Method of finance									
Debt	−40.6	−30.7	−10.4	−43.4	−44.2	−46.5	−30.9	--	−8.5
New-share issues	33.2	40.0	33.2	31.7	35.5	37.8	25.3	33.0	27.3
Retained earnings	33.4	40.0	33.4	31.9	35.7	37.9	25.4	33.0	27.3
Owner									
Households	4.4	12.3	16.3	2.4	4.5	4.9	3.4	20.1	13.3
Tax-exempt institutions	−0.1	8.1	13.6	−2.2	−0.5	−0.3	--	18.1	11.1
Insurance companies	−8.8	−0.3	8.4	−11.1	−9.9	−10.3	−6.7	14.2	6.9
Overall tax rate	3.5	11.4	15.7	1.4	3.4	3.8	2.6	19.7	12.8
Weighted standard deviation	41.3	35.6	28.7	41.1	44.9	46.2	31.7	16.2	17.7

SOURCE Daly et al., "Neutral capital income tax system," Table 15, and additional calculations by the authors.

nesses. The simulations reported in columns 5 and 6 of Tables 6-9 and 6-10 suggest that a withdrawal of either of these preferential corporation-tax rates alone would increase the variation in marginal effective tax rates. As column 7 shows, however, a lower uniform statutory corporation-tax rate of 33.3 per cent (for example) would diminish the dispersion in marginal effective tax rates.[19]

As we pointed out in Chapter 3, small businesses bear a disproportionate burden of the asymmetries in the tax system associated with incomplete offsetting of losses. But this situation should be corrected by increasing the degree of loss offsetting provided by the tax system rather than by applying lower statutory tax rates to small businesses than to other firms. Repeal of both the investment tax credit and accelerated capital cost allowances, in combination with a lowering of statutory corporate-tax rates, would also reduce these tax asymmetries.

Integration of Corporate and Personal Income Taxes

With a statutory corporation-tax rate of 33.3 per cent, a dividend tax credit of 50 per cent would be required in order to integrate fully the corporation and the personal taxation of dividend income received by households and tax-exempt institutions (column 7).[20] In other words, a dividend tax credit of 50 per cent compensates shareholders for corporate income taxes levied at the rate of 33.3 per cent. Elimination of the double taxation of dividends would reduce the dispersion in marginal effective total-tax rates by placing debt- and

Table 6-10

Marginal Effective Total-Tax Rates (Corporation plus Personal) under Alternative Income-Based Tax Proposals

								Total package	
	1985 tax rates (1)	True depreciation at replacement cost (2)	Deductibility of real interest (3)	Fully indexed inventory allowance (4)	No manufacturing and processing deduction (5)	No small-business deduction (6)	Statutory corporate tax = 33.3% (7)	Without investment tax credit (8)	With 5% investment tax credit (9)
					(Per cent)				
Industry									
Construction	36.8	37.8	45.4	30.6	38.2	40.7	37.3	33.1	26.6
Transportation	36.6	36.3	44.7	36.6	36.7	39.1	33.7	35.9	30.8
Storage	32.5	34.1	44.3	31.0	32.5	32.8	31.7	33.9	29.6
Communications	38.1	38.7	49.6	38.1	38.1	38.2	34.0	35.5	30.4
Gas distribution	40.5	41.2	51.3	39.3	40.5	40.7	35.7	35.8	31.6
Trade	33.9	36.5	43.7	30.1	33.9	34.8	33.5	33.8	29.6
Commercial services	28.6	31.7	37.9	28.4	28.6	29.3	28.8	33.6	26.4
Manufacturing	22.6	35.9	30.8	21.1	23.0	22.8	22.1	35.9	30.8
Asset									
Machinery	16.0	33.0	24.9	16.0	15.4	16.0	17.0	35.3	28.4
Buildings	36.8	35.4	45.9	36.8	37.5	37.8	33.9	35.3	30.9
Inventories	43.1	43.1	52.1	35.7	44.2	45.1	40.8	34.7	31.6
Method of finance									
Debt	8.6	15.9	30.8	6.6	6.0	4.3	15.7	26.7	20.4
New-share issues	44.4	50.5	44.4	43.1	46.5	48.6	38.3	40.4	41.5
Retained earnings	43.5	49.8	43.5	42.1	45.7	47.8	36.6	41.0	35.8
Owner									
Households	35.4	41.8	43.5	33.8	35.8	36.4	33.5	38.3	33.5
Tax-exempt institutions	−0.1	8.1	13.6	−2.2	−0.5	−0.3	—	18.1	11.1
Insurance companies	−10.8	−1.7	3.5	−13.0	−10.9	−10.6	3.7	20.8	14.0
Overall tax rate	29.4	36.1	38.4	27.8	29.7	30.2	28.3	35.1	30.0
Weighted standard deviation	28.1	22.9	21.6	27.6	30.4	31.3	21.3	10.4	11.9

SOURCE Daly et al., "Neutral capital income tax system," Table 16, and additional calculations by the authors.

equity-financed investments on a more equal footing than they are on at present. The remaining differences between the effective tax rates for debt-financed and equity-financed investments arise largely from the fact that households that invest in bonds are typically in lower personal tax brackets than those which invest in shares.

The present dividend-tax-credit system is, however, an unduly expensive method of integrating corporate and personal income taxes, since it grants the credit whether or not a company that distributes dividends has actually paid corporation taxes. The obvious solution to this problem is to allow credits only for taxes that companies have already paid – a procedure followed in the United Kingdom. The main drawback to this solution is that the United States would then likely expect Canada to pass on the tax credit to U.S. residents having Canadian investments, at a cost in tax revenue of over $680 million per year.[21]

This loss in tax revenue could be avoided by levying a tax on corporate profits when they were distributed, at a rate consistent with the dividend tax credit. Given that the intent of the credit is to compensate shareholders for the fact that part of the corporate tax bill includes prepayment of income tax on dividends, it follows that one should ensure that such taxes are indeed paid in the first place by corporations. With a 50-per-cent dividend tax credit, a 33.3-per-cent tax levied at the corporate level on distributed dividends, fully creditable against corporation income taxes (with carryback and carryforward), would achieve this objective. The tax would constitute a minimum tax on corporate profits distributed as dividends and would probably be compatible with existing tax-treaty arrangements with the United States.

Full-Loss Offsetting

The foregoing tax-policy simulations assume that companies have enough profits to use all the tax allowance for which they are eligible. As was pointed out in Chapter 3, however, a large proportion of Canadian companies are not always able to use all of the allowances available. Consequently, they face higher marginal effective tax rates than do firms that are always in a tax-paying position. Although repeal of the investment tax credit and the introduction of capital cost allowances based on true economic depreciation would reduce this discrepancy, such measures could not completely eliminate it. Equal tax treatment of firms that are always tax-paying and of those that are not would require the introduction of some method of allowing firms to offset their losses fully for tax purposes.

Refundable taxes are often suggested as a way to treat profits and losses symmetrically. The suggestion presumes, however, an ability to distinguish clearly between expenditures made to earn income and expenditures for personal consumption.[22] This distinction has to be made in any case, even when no losses are involved, but becomes especially important when it is suggested that an excess of current expenditure over current receipts should attract a tax refund. The present lack of symmetry in the treatment of profits and losses can be viewed as a compromise. On one hand, risk-taking by the private sector is discouraged; on the other hand, taxpayers are not put at the risk of being called on to underwrite expenditures that may not have been made to earn income.

Nevertheless, the current tax treatment of losses could be improved by permitting firms (and individuals) to carry forward losses against future taxes indefinitely. In addition, firms should be able to carry losses forward not, as at present, at their nominal value, but marked up by an interest factor corresponding to the government bond rate to compensate firms for the fact that they have to wait to get the benefit of the tax credits, allowances, and deductions. Unlimited loss carry-forward would reduce the possibility of fraudulent claims for losses, since firms would not be able to claim losses until they had taxable income. Unfortunately, it would be of little immediate benefit to firms without any taxable income. Finally, as pointed out in Chapter 3, the use of "flow-through" shares is an extremely inefficient method of accomplishing greater loss offsetting, since the loss in tax revenues far exceeds the tax benefits obtained by the firms that undertake the investment.[23]

A Comprehensive Reform Package

If all six tax measures discussed in the previous section were implemented, together with repeal of the investment tax credit, the variation in marginal effective tax rates would be considerably reduced (see column 8 in Tables 6-9 and 6-10).[24] Included in our package would be the indexation of capital income and the taxation of one-half of realized capital gains on corporate shares, with no lifetime exemption.[25] This tax package would reduce the variation in marginal effective tax rates by considerably more than that proposed by the Department of Finance in its 1985 discussion paper.[26] Indeed, if these changes were adopted, the only feature of the corporation tax system that would cause variation in marginal effective tax rates would be the differential tax treatment of debt-financed and equity-financed investments.

On the other hand, marginal effective tax rates would be substantially higher under this package of tax measures than they are under the existing tax system or, indeed, than they would be under the Department of Finance proposals. While higher marginal effective tax rates might discourage aggregate investment, they would be mitigated, if not more than offset, by the changes in the personal tax system suggested in Chapter 7. These changes are designed to transform the existing personal tax base into one that would correspond more closely to lifetime income by relaxing the limits on contributions to RRSPs and raising the investment income deduction from $1,000 to $2,000 per annum. The relaxation of RRSP contribution limits would increase the proportion of saving channeled through tax-exempt institutions. In the extreme case where the investment income deduction and RRSP contribution limits were sufficiently generous to allow complete do-it-yourself income averaging for personal tax purposes, the marginal effective personal-tax rate on investment income would be zero. Consequently, the marginal effective total-tax rates (excluding sales and property taxes) would coincide with the marginal effective corporation-tax rates reported in column 8 of Table 6-9, which are lower than those in column 1 of Table 6-10. By reducing marginal effective tax rates, a personal lifetime-income tax in combination with the type of corporation tax being suggested here would encourage, rather than discourage, new investment by Canadians. Rates on capital income would be reduced even further, and thus investment stimulated even more, if the federal manufacturers' sales tax were replaced by a business transfer tax or a value-added tax, with exemptions for capital inputs, as described later in Chapter 8.

Alternatively, the increase in marginal effective tax rates could be reduced by retaining the investment tax credit but applying it at a uniform rate to all investments. After all, it is not the credit as such that has caused most of the variation in marginal effective tax rates but rather the uneven manner in which it has been applied, with rates that vary by type of asset, by industry, and by region. If the package of tax measures discussed in the previous section included a common investment tax credit of 5 per cent for all new investments, including investments in inventories, the overall marginal effective corporation- and total-tax rates would decline to 12.8 and 30.0 per cent, respectively (see column 9 of Tables 6-9 and 6-10). On the other hand, marginal effective tax rates would vary slightly more with the 5-per-cent investment tax credit than without it.

A Workable Corporate-Income Tax-Reform Package

Unfortunately, it is doubtful whether all of the corporation tax measures discussed here could be implemented. As we have pointed out, indexation of the corporate income tax system would involve three provisions: the indexation of CCAs, indexed inventory accounting for tax purposes, and real interest deductibility. Although the first two provisions are likely to be acceptable, the restriction of interest deductibility to real rather than nominal expenses along the lines suggested would raise serious difficulties because of its far-reaching implications for financial markets. Yet indexation involves a package deal encompassing all three provisions, not just two out of the three.

One way around this problem would be to continue to permit the deductibility of nominal interest but to adjust CCAs and the inventory allowance for the amount of non-equity financing used by firms.[27] Thus an entirely equity-based firm would receive CCAs that reflected true economic depreciation and the full inventory allowance, but a company that used debt financing would have the indexation component of CCAs and the inventory allowance reduced by the current ratio of non-equity financing to debt financing.

Since the annual inflation rate is currently only about 4 per cent, indexation of the corporation tax may not be viewed as a matter of much urgency. There is no guarantee, however, that further inflationary pressure will not arise in the near future. The current mess in which we find the corporation tax system is due in part to the *ad hoc* tax policies, notably the liberalization of CCAs and the enhancement of the investment tax credit, introduced during the 1970s and early 1980s in an effort to counteract the adverse impact of inflation on corporate cash flows. If we are to avoid repeating past mistakes, we must be prepared for inflation in advance. Indexation of the corporate income tax, which would serve as insurance against the damaging consequences of a renewed outbreak of inflation, might well be considered a desirable medium-term objective of tax policy. The lower the rate of inflation, the easier it is to adjust to inflation accounting for tax purposes. Therefore the time to act on indexation is now, while inflation is relatively low.

As for the objective of accomplishing greater uniformity in statutory corporate-tax rates, it should be achieved by reducing the manufacturing and processing deduction and the basic federal rate in a way that would ensure that the manufacturing sector will face statutory rates that are no higher than at present. Similarly, any drop in basic statutory corporate-tax rates could be accompanied by a corresponding reduction in the small-business deduction in order to ensure that the statutory corporate-tax rates applied to small businesses will be no less than at present. More precisely, we suggest combined federal and provincial statutory tax rates of 33.3 and 25 per cent for large and small companies, respectively, regardless of their lines of business, with an abatement of 8.3 percentage points to the provinces.

With respect to the integration of corporate and personal income taxes, the 50-per-cent dividend tax credit described earlier reflects the presumption that income tax on dividends has been prepaid at the rate of at least 33.3 per cent. Such a presumption is justified only if all companies face a statutory tax rate of 33.3 per cent and if no tax credits, deductions, or other forms of corporate tax relief are permitted. Since, in practice, average, as well as marginal, effective tax rates generally fall short of statutory rates, the dividend tax credit should be reduced to reflect average taxes paid rather than statutory corporate-tax rates.

In this regard, the federal government's decision to reduce the dividend tax credit to 33.3 per cent, effective January 1, 1987, can be justified on the grounds that the average corporate-tax rate on income from capital in the corporate sector as a whole is estimated at close to 25 per cent (22 per cent in 1984).[28] As the tax-reform package we are suggesting is intended to be roughly revenue-neutral as far as corporate income taxes are concerned, it follows that the suggested minimum tax on distributed dividends should be set at 25 per cent. Such a tax would eliminate overintegration in the case of profitable nontaxpaying companies. Unfortunately, the tax treatment of dividends distributed by large taxpaying companies would still fall short of full integration.

Finally, to accomplish similar personal-tax treatment for dividends and capital gains, the latter would have to be taxed in full upon realization and at the same rate as dividends.[29] With a 33.3-per-cent tax credit for grossed-up dividends and no preferential tax treatment accorded to realized capital gains, the recently introduced minimum personal income tax would probably be unnecessary. Abolition of the minimum personal income tax and the removal of any distinction between realized capital gains and other investment income for tax purposes would, of course, greatly simplify the tax code. Elimination of the tax-induced bias against equity investments channeled through RRSPs could be achieved by extending the 33.3-per-cent tax credit to grossed-up equity income (capital gains as well as dividends) upon withdrawal from an RRSP.

The foregoing changes in the corporate income tax system could be accomplished within three or four years. For instance, the present general investment-tax-credit rates of 7 and 10 per cent could be reduced to 5 and 7 per cent, respectively, in 1987; to 3 per cent in 1988; and to zero in 1989. In fact, the federal government proposed such a transition scheme in its 1986 budget. The new capital cost and inventory allowances incorporating financing adjustments and the suggested cut in the statutory corporation-tax rate could be phased in over a similar period of time. By contrast, the reduction in the dividend tax credit, the minimum tax on distributed dividends, and unlimited carryforward (with interest) of losses for tax purposes could be implemented immediately.

Finally, we should point out that our suggested corporate income tax system would not necessarily be any simpler than the existing one. The greater tax neutrality of the proposed system, however, would be well worth the additional complexity involved in indexing the corporate income tax.

Principal Conclusions

We have seen that most of the variation in marginal effective corporation-tax rates, and therefore in marginal effective total-tax rates, could be eliminated by 1) requiring that capital cost allowances reflect, as closely as possible, economic depreciation at replacement cost; 2) repealing the investment tax credit (or applying it at a uniform rate); and 3) restricting the interest deduction for corporation tax purposes to real, rather than nominal, interest payments. The statutory corporation-tax rate could then be adjusted to ensure that the required amount of tax revenue was collected. Interestingly, abolishing the investment tax credit and reducing the deduction at the corporate level for interest expenses would be moves toward a cash-flow tax, as well as toward a neutral business-income tax. On the other hand, a reduction in capital cost allowances would be a move away from a cash-flow tax.

Needless to say, even with the foregoing suggested changes the corporation tax system would still fall somewhat short of the ideal or neutral tax system. Yet these changes would give us a much better tax system than we now have. They would help the corporation tax to fulfill its basic function of raising revenue without inflicting unnecessary damage on the economy in the process. Moreover, by achieving a more efficient allocation of investment and thus higher productivity throughout the economy, this tax-reform package would enhance Canada's overall competitiveness from an international standpoint. This tax strategy is in direct contrast to that which was adopted in the 1970s, which used tax breaks in an attempt to maintain or improve the international competitiveness of selected industries at the expense of productivity in the economy as a whole.

7 Personal Taxes

As discussed in earlier chapters, the personal income tax, while nominally on an annual-income base, contains elements of a consumption tax, lifetime-income tax, and outright exemptions for certain types of savings or investment income. This mixture of tax bases and treatments gives rise to a number of problems.

First, because of its mixed nature, the current personal tax results in non-neutral treatment of different savings or investment opportunities. As a result, it leads to a misallocation of resources and lower economic efficiency overall by interfering with economic decisions. A tax system structured on a consistent base, regardless of the nature of the base, would avoid much of this shortcoming.

Second, because of a lack of consistent treatment, there is a continuing incentive to try to convert ordinary income into a form that will be given preferred treatment by the tax system. To limit this type of activity, rules - sometimes very arbitrary ones - are put in place. New ways are found to skirt the rules, leading to more rules and, over time, to a very complex tax system. A tax system that treated all forms of income more even-handedly would not only be more efficient but also much simpler.

Third, to the extent that tax preferences tend to be used by high-income taxpayers - and used extensively by some to eradicate their tax liability - a perception of vertical inequity is created. Since perceived fairness is an essential ingredient of a self-assessed tax system, the federal government has introduced the alternative minimum tax for high-income taxpayers who would otherwise escape income tax. While such a sweeping measure will directly address concerns about equity, it also unfortunately increases complexity and compliance costs, and has the potential to increase non-neutralities. For example, the dividend tax credit, which was intended to take account of corporation taxes already paid on dividends and thus integrate the two taxes, could be frustrated by being included in the minimum tax.

Fourth, tax preferences such as exist in the current system narrow the tax base and lead to higher tax rates to generate the same tax revenue. These higher rates, in turn, increase the reward for using preferences and the pressure to create new preferences. Thus the argument for limiting tax preferences and reducing personal marginal tax rates has appeal.

Fifth, the current personal tax system does not allow for the effects of inflation with respect to capital income. By taxing the return to saving and investment on a nominal, rather than a real, basis, the personal income tax moves away from neutrality and lessens government accountability by inflicting hidden tax increases during sustained bouts of inflation.

Finally, the personal tax is less than perfectly integrated with the corporate tax; this situation has worsened recently because the reduction of the dividend tax credit has not yet been matched with a reduction in the statutory corporate-tax rate. As shown in Chapters 3 and 6, such a situation introduces tax biases in investment decisions and thus has a direct impact on resource allocation.

These criticisms having been offered, the current personal income tax remains the most progressive, direct, visible, and appropriate tax with which to finance a large segment of government activity. Our efforts in this area are directed at obtaining a more consistent and neutral tax base that would deal with the problems described above.

An Annual-Income Tax

A question that could be asked is: Why not improve the current system and move toward a more neutral annual-income tax? The features of a comprehensive annual-income tax system were presented in Chapter 2. Unfortunately, such a system would be extremely complex, and it would suffer from a high degree of arbitrariness because of the rules of attribution.

The list of reform measures necessary to attain it would include: accrual accounting; full integration with the corporate income tax; full indexation; removal of all vestiges of registered savings and averaging; and a highly complex and rather arbitrary treatment of housing, consumer durables, defined-benefit pensions, and human capital. While this list is not complete, it does impart some idea of how radical such changes would have to be. The recent changes in the United States accept many non-neutralities as inevitable. Indeed, no tax system on an annual-income base fully addresses these departures from neutrality; nor could it.

Earlier it was pointed out that under the Canadian, as well as the U.S., current annual-income tax there is a form of "double taxation" whereby both savings and the returns to savings are taxed - a treatment accorded all financial or income-producing assets. In Chapter 4, two alternatives - a cash-flow and a tax-prepaid system - were examined as means of eliminating double taxation and obtaining a neutral tax base without complicating the treatment of consumer durables or human capital. In the following sections, these two methods will be used to develop a basis for a reformed personal tax system.

A Lifetime-Income Tax vs. a Consumption Tax

A lifetime-income tax would be able to incorporate some features of Canada's present personal tax system but move toward the goal of neutrality at the same time. Moreover, in changing the focus of taxation to a lifetime basis, it is possible to move the personal tax system very close to a consumption tax system. In fact, if there were no intergenerational transmission of wealth, a consumption tax and a lifetime-income tax would be identical over a lifetime. The main criticism of a consumption tax has always been that it permits intergenerational accumulation of wealth that has never been taxed. If all untaxed savings become taxable at death, however, that tax then effectively becomes a lifetime-income tax, which is what the Council has proposed.

A lifetime-income tax, levied directly, would make neutrality of the tax base possible without the excessive complexities associated with accrual accounting or indexation of capital income, or the arbitrariness of imputation. Furthermore, as was shown in Chapter 4, neutrality over time would contribute to tangible efficiency gains in the economy. To begin with, a lifetime-income tax would require the full inclusion of capital gains (and the full deductibility of capital losses), as does an annual-income tax. It also presupposes a broadening of the tax base by the elimination of many special exemptions, deductions, and exclusions.

In the treatment of savings and investment, the reforms required for either a lifetime-income or consumption tax base take us in the opposite direction to that required for an annual-income tax. In particular, the deduction of contributions to registered savings or of returns to unregistered savings, which is essential to the operation in either case, would not be allowed under a pure annual-income tax.

Cash-Flow and Tax-Prepaid Approaches

In discussing the merits of different methods of taxing capital income in Chapter 4, we described the use of the cash-flow approach and the tax-prepaid approach, both of which we shall compare in this section. The cash-flow approach deducts from income all amounts saved or invested and includes in income all amounts withdrawn from savings or borrowed, so that the tax base is total income less net saving. Such a regime would require a mechanism for registering and deregistering assets for tax purposes, like the one for RPPs and RRSPs in the current system.

A cash-flow system would also require a practice for which the current system provides little precedent, that of registered borrowing. A registered loan, like a withdrawal from registered savings, would enter the tax base. The subsequent repayment of the principal and interest of a registered loan, like an equivalent contribution to registered savings, would be deductible. Thus registered borrowing could be considered to be the equivalent of a withdrawal from registered savings, to be replaced by future instalments. Such borrowing would be particularly advantageous to those individuals whose current income was low but who expected higher income in the future and who did not have registered savings that could be withdrawn. Students are a prime example; women who withdraw temporarily from the labour market early in their careers to have children are another.

Under a tax-prepaid method, the portion of income that is saved is taxed as it is today, but the returns to saving, whether they be interest, dividends, capital gains, or net rental income, are excluded from taxable income. The current personal tax system treats consumer durables, including owner-occupied housing, in this fashion: there is no deduction for the purchase price of the asset, but the imputed income generated by the asset does not enter an individual's taxable income. Tax-prepaid treatment of loans would neither include loan proceeds in the tax base nor allow deduction of loan payments - in other words, the current tax treatment of mortgages and consumer loans would continue.

Registered Saving

While these two approaches to the tax treatment of savings appear dissimilar, they are similar in some respects, as can most easily be seen by examining what happens with an RRSP. Consider a taxpayer in the 30-per-cent marginal tax bracket who makes a $1,000 contribution to an RRSP. Suppose the plan earns a before-tax return of 10 per cent and the taxpayer deregisters the plan and withdraws the proceeds at the end of three years; at that time the entire balance is $1,331, including accumulated interest, and it attracts a tax of $339.30, leaving the taxpayer $931.70. This operation of an RRSP is familiar to most people; however, it is not uncommon to hear such a transaction referred to as "escaping taxation." In fact, when the contribution is made, a tax liability is created that will be collected when funds are withdrawn. By separating the tax liability from the taxpayer's return, we obtain the results shown in Table 7-1. Thus a contribution of $1,000, in this example, creates a tax liability of $300, leaving the taxpayer with a net of $700. Both the tax liability and the taxpayer's equity compound at the rate earned by the plan overall. Considering only the taxpayer's return, we have an exact illustration of the tax-prepaid method: on income of $1,000, tax of $300 is paid, and the net income of $700 earns a 10 per cent return.

Table 7-1

Tax Liability and Taxpayer's Return on an RRSP

	Year			
	0	1	2	3
Tax liability	$300	$300	$330	$363.00
Interest		+ 30	+ 33	+ 36.30
Total tax liability				$399.30
Taxpayer's return	$700	$700	$770	$847.00
Interest		+ 70	+ 77	+ 84.70
Net taxpayer's return				$931.70

Both the cash-flow method and the tax-prepaid method achieve the same thing but by different routes. In each case the after-tax return of the saving is equated with the before-tax return, thus removing the tax wedge and savings distortion inherent in an annual-income tax. Both methods are essential for the operation of either a lifetime-income tax or a consumption tax, in order to allow simple treatment of assets and to allow individual taxpayers the ability to self-average their tax liability over a longer horizon than one year.

In simplest terms, tax averaging is achieved by having a constant marginal tax rate throughout a lifetime. This is achieved by registered borrowing or withdrawing from registered savings during low-income years and by contributing to registered savings or repaying registered loans during high-income years. Once the tax rate is averaged using registered transactions, the desired consumption stream is obtained by using nonregistered savings and loans. The penalty for over-averaging by contributing too heavily to registered savings, and thereby over-reducing the marginal tax rate during high-income years, is a higher marginal tax rate in the future when those larger funds are withdrawn.

Saying that both methods are essential to a reformed personal tax system does not imply that the Council is indifferent as to which one should be adopted. The apparent equivalence found in the previous example relies on the tax rate remaining constant and on the lack of pure profit in the return to saving or investment. In the real world, with varying returns and a progressive rate structure, neither condition is necessarily satisfied. Only the cash-flow method imposes tax at the appropriate rate and ensures the taxation of pure profit, whereas the tax-prepaid method does not.[1] If unlimited use were to be made of the tax-prepaid method, the result would be a tax on labour income rather than either a consumption or lifetime-income tax. For this reason, the use of the tax-prepaid method for other than durables or housing must be limited.

Transfer of Wealth

As mentioned earlier, for an individual who inherited nothing and left no bequests, and who bestowed or received no gifts, a consumption tax and a lifetime-income tax would be identical since all income would have been consumed. It is in the treatment of gifts, inheritances, and bequests that the two tax bases are distinguished. Unfortunately, the literature is far from unanimous in this area, leaving many issues unresolved.[2] For example, there is no general agreement on whether a bequest represents consumption of the donor, over and above the transfer of wealth to the heir. It seems pointless, in the face of such ambiguity, to try to establish definitions that would be acceptable to all. Rather, the discussion will concentrate on the treatment of assets held either in registered or in tax-prepaid form, viewing bequests as a transfer of wealth from donor to heir, in line with current Canadian tax practice.

To illustrate, consider the case of registered assets remaining upon the death of the owner. Because of the tax deduction accorded at the time the savings were registered, the remaining funds in the registered account have not been taxed. Under a consumption tax, the entire proceeds would be rolled over in registered form to the heirs, and only when the funds were subsequently deregistered, withdrawn from savings, and spent would they be taxed, at the marginal rate of the inheritor. Under a lifetime-income tax, however, the total value of registered savings, including deemed realization of accrued returns, would be deregistered and taxed as income in the estate of the donor – and at his or her marginal rates. The residual, or net wealth, would then be transferred to increase the net wealth of the inheritor, without being subject to any further tax.

The case of tax-prepaid assets is somewhat different. Under a consumption tax, the value of tax-prepaid assets is deductible to the donor and taxable to the heir. Under a lifetime-income tax, the value of tax-prepaid assets is neither deductible to the donor nor taxable to the heir. The fact that the tax-prepaid method is unable to capture pure profit is a problem for both consumption and lifetime-income bases. For reasons of simplicity, such leakages of consumption or of income should be limited by restricting the use of tax-prepaid treatment and accepting the fact that minimal leakage will occur.

When viewed in the above framework, many of the features of the current tax system are in accord with a lifetime-income tax. Registered savings are deregistered and taxed as income upon the death of the owner, except for the interspousal roliover; tax-prepaid treatment is accorded by a deduction for interest and dividends, which is limited. These features provide a place to start in considering the reform of taxation of savings and investment.

How Should Lifetime Income Be Taxed?

Moving to a lifetime-income tax would require changing the current tax treatment of capital gains and capital losses. In the present system, the rationale for one-half inclusion of capital gains as taxable income was to provide roughly the same treatment for dividends as for capital gains under the personal and corporate tax systems combined. Given the proposed changes to the corporate tax in Chapter 6 - notably the reduction in the dividend tax credit from 50 to 33.3 per cent - equivalent treatment of dividends and capital gains requires full taxation of the latter. This is exactly what is involved, in principle, in any comprehensive tax base. At the same time, capital losses, which may currently be used only to offset capital gains, should be allowed to be offset against all income.

In addition to moving the tax base toward greater neutrality, full taxation of capital gains would also simplify the system. Because capital gains would be treated like any other income, many of the existing regulations to prevent arbitrage would no longer be necessary, and planning decisions could be made more clearly on economic grounds without tax complications. The full deduction of capital losses against all income would, in addition to being more neutral, be a positive stimulus to risk-taking.

Making capital gains fully taxable as income and eliminating the present lifetime exemption of $500,000 would, in the absence of any other changes, violate the Council's broad commitment to revenue and distributional neutrality in this study. Distributional neutrality could be restored, however - at least in a rough and ready way - by reducing the top federal marginal tax rates on personal income. Our calculations indicate that the full inclusion of capital gains in taxable income would require reducing the two highest marginal tax rates from 34 to 30 per cent and from 30 to 28 per cent, as well as relaxing the limits on registered savings, to maintain rough distributional neutrality.

The main instrument in a move to a lifetime-income tax would be expansion of registered savings. Registered savings provide individuals with the means to conduct tax averaging in an efficient manner and are particularly important given the variability of income from year to year and over a lifetime. By allowing deductions during high-income years and taxing withdrawals during low-income years, the system would allow taxpayers to smooth out their own income flows and create their own personal "flat-tax" system throughout their lifetimes. The system would remain progressive, however, since taxpayers with higher lifetime incomes would pay higher tax rates than those with lower lifetime incomes. Furthermore, savings conducted through registered plans would not be subject to taxation in the distorting fashion of an annual-income tax. Registration thus gives rise to two desirable features: tax averaging; and the neutral treatment of savings.

Currently, RRSPs and RPPs form the basis of registered savings. Both are limited in terms of dollar amounts, contribution rates, type of qualifying income, and age. In moving to a lifetime-income tax, the use of registered savings would go well beyond their role as pensions. Age restrictions would be removed, and total income rather than earned income would serve as the base for contributions. The dollar limit on contributions should also be removed. While it could be argued that a dollar limit, set high enough, would be fully compatible with a reasonable degree of tax averaging, such a limit would still not create neutral tax treatment of savings. For instance, a wealthy individual whose income fluctuations all occurred above the threshold of the top tax bracket would, by definition, be tax-averaged. But the savings of that individual should still be allowed the possibility of being treated in a neutral fashion - i.e., taxed only once by the tax system.

Deferring the payment of taxes on registered savings creates an equal deferral of government revenue, a reduction in the current cash inflow, and an increase in the present cash requirement of government. An immediate move to a lifetime-income tax system with unlimited scope for registering savings could create such a large cash requirement that governments would have little choice but to increase personal tax rates in the short run, with a gradual reduction over time as the system stabilized. To avoid this type of instability, changes that moved in the direction of increasing the contribution rate and removing the dollar limits to registered savings schemes could be introduced gradually. As for a target level for the contribution rate, to judge from the annual-income fluctuations noted in Chapter 4, a contribution rate of around 30 per cent of income would appear to cover all requirements for tax averaging. Taken by itself, such a contribution rate would not be large enough to trigger the limiting mechanism of the existing minimum tax.

Many of the limitations that currently exist with respect to RRSPs and RPPs would remain under a lifetime-income tax. Registered treatment may be inappropriate for certain classes of assets. One such class consists of consumer durables and owner-occupied housing. While it is straightforward to determine the purchase price at which such items could be registered, the withdrawals are largely in the form of services for which imputations would have to be made. No such items should be treated on a cash-flow basis; the appropriate treatment is on a tax-prepaid basis - in other words, the current treatment.

Other classes of assets probably should not be treated on a cash-flow basis. These include a range of assets held at less than arm's length and over whose value the holder has significant control. Without substantial policing, registration and the immediate deduction of such assets from income could lead to abuses.

At the present time, there is a limit restricting the value of foreign assets in RRSPs to 10 per cent. We have not examined this feature in this study and hence are not suggesting that it be changed.[3] Indeed, a host of rules and regulations governing and taxing transactions in registered assets have been put in place over the years and should probably remain intact if access to expanded registered savings under a lifetime-income tax were implemented.

Another element essential to a lifetime-income tax would be the provision for borrowing on a registered basis. The precedence for this in the current tax system is sparse but does exist on certain loans from life insurance policies and in the case of certain loans to shareholders from corporations. As indicated earlier, the loan proceeds would be taken into taxable income in the year in which the loans were made, and future repayments of principal and interest would be deductible. How the loans were obtained in the first place is of no concern to the tax system; presumably lenders would follow normal prudent practices, and persons with evidently no repayment prospects would not qualify. Restrictions on registered borrowing should be no more onerous than those on withdrawals from registered savings. In this respect, since there is a tax liability embedded in the loan principal, a withholding tax similar to that on registered withdrawals could well be imposed, mostly for the same reasons.

The second method of taxing savings and investment under a lifetime-income tax is the tax-prepaid method. While the cash-flow, or registered savings, treatment remains fully appropriate under a progressive rate structure, the tax-prepaid approach does not. Furthermore, unlike the cash-flow method, the tax-prepaid method would not tax pure profit. For both reasons, tax-prepaid treatment must be limited in its application.

To illustrate, suppose a taxpayer chooses to purchase a risky asset with the possibility of substantial gains. If the gain is realized, under the cash-flow method the gain would be realized in registered form and taxed upon withdrawal at the appropriate marginal rate. Under the tax-prepaid method, however, once tax had been paid on the initial investment, all future returns would accrue tax-free, with no further tax consequences. The realized gain would have been implicitly taxed at the rate prevailing when the investment was made, even though it was sufficient to move the taxpayer up the progressive rate structure; that is, the gain would have been taxed at too low a rate.[4] It goes without saying that in the event of a loss the rate would have been too high.

Thus, while the two approaches to taxing consumed income might be equivalent in present-value terms before the fact, the real after-the-fact results might well be different. The tax-prepaid approach to the assessment of taxes would require a restructuring of the classic conception of tax equity. While it would seem unreasonable to require people with the same expectations but with different outcomes to pay the same amount of tax, to the extent that they are otherwise tax averaging through the use of registered savings, the problem is somewhat mitigated.

Why, then, do we consider the tax-prepaid approach at all? Well, in the first place, it is very simple to treat consumer durables and owner-occupied housing on that basis. The cash-flow treatment of such assets, by requiring annual-income imputations from the use of the asset, would, for most taxpayers, be confusing and costly, and would smack of arbitrariness.

Moreover, it is essential to have a measure of tax-prepaid treatment to enable individuals to self-average their tax liabilities properly, while choosing their desired consumption pattern. People save for major purchases such as automobiles, homes, and all kinds of unforeseen contingencies, and to have to withdraw substantial lump sums from registered savings for such items could adversely affect their efforts at self-averaging. Allowing saving and dissaving on a nonregistered basis could assist people to achieve both tax averaging and a desired consumption pattern - hence the need for a certain amount of financial savings on a tax-prepaid basis.

Tax-prepaid saving for financial assets could be implemented in one of two ways. First, tax-prepaid treatment could be accorded to designated assets for which the possibility of pure profit did not exist. Such assets would be nonmarketable, fixed-price savings instruments, such as bank accounts, deposit certificates, investment certificates, Canada Savings Bonds, and the like. To declare such instruments as the only ones qualifying for tax-prepayment would, however, unduly restrict the choices of individuals in attempts at tax averaging. Furthermore, limits would have to be placed on the use of these instruments, and transitional measures would need to be introduced, to prevent windfall gains for current asset holders, revenue shortfalls for government, and capital-market disruptions.

The alternative, which is suggested in this report, is to allow returns from all types of assets to qualify for tax-prepaid treatment, including corporate bonds and shares, rental housing, and other investment durables. This would require that all capital income from nonregistered assets - interest, dividends, net rental income, and capital gains upon disposal or upon deemed realization at death - be included in the tax base, as is currently done. Tax-prepaid treatment would then be accorded by one capital income deduction covering all forms of capital income, sufficient in size only to provide a reasonable degree of ability to self-average. The interest and dividend deduction in the current tax system, introduced as an *ad hoc* inflation adjustment in the mid-1970s, could be used for this purpose if it were expanded to include other forms of capital income, increased in size, and indexed for inflation. The deduction of interest on money borrowed to finance nonregistered assets should also serve to reduce the capital income eligible for the capital income deduction by the same amount. Furthermore, for simplicity, owner-occupied housing should continue to be exempt from capital gains.

Determining the limit on the size of the capital income deduction would really be a judgment call. In addition to the reasons already given for such a limit, what has to be taken into account is that the unit of taxation is the individual. Too high a limit for the capital income deduction could create increased pressures on attribution rules, which are far from leakproof at present. Tougher attribution rules would increase complexity without necessarily being much more effective. With these considerations in mind, a capital income deduction each year in the order of $2,000 might be in order.

In effect, the limits that we have suggested to both cash-flow and tax-prepaid methods of personal taxation imply that the system would never reach full lifetime-income status, even though for the vast majority of taxpayers full lifetime-income tax treatment would be a reality. Limits mean that certain savings or investments would not be treated under a lifetime-income-tax principle, either because one or other of the constraints was binding or because the nature of the asset precluded registration. Such savings or investments would automatically receive the nonregistered treatment, as in the current system.

Inflation and Indexation

One of the criticisms of the current system is that it taxes illusory returns to capital that are only the result of inflation. Over the recent past, high inflation rates have created some of the largest distortions in the tax system.

Until very recently, the current personal income tax has been, more or less, fully indexed for labour income, but the treatment of capital income has been much more haphazard. While registered savings are automatically indexed to the same extent as labour income, nonregistered savings have been taxed on nominal, rather than real, returns.

Since the system that has been proposed falls short of a full cash-flow system, full indexation would require the indexation of capital income beyond registered savings. Much as that would be desirable economically, we are proposing no such indexation because of the practical difficulties involved. Rather, by increasing the ability to save in registered form, we would achieve greater indexation for the entire personal tax system, provided that tax brackets, deductions, and exemptions were fully indexed. Thus it would be desirable to remove the existing restrictions on indexing and restore indexing at the full inflation rate. In addition, the capital income deduction should be fully indexed.

Conclusions

In this chapter, we have examined some of the changes in the personal tax system that would be required to move toward a lifetime-income tax. Most of the changes would involve expanding existing elements of the current system over a period of time, so that such a move would be evolutionary rather than revolutionary, as it would be moving to a fully comprehensive and neutral annual-income tax.

For a number of reasons, we do not view the total removal of limits on cash-flow treatment as being practical, and new limits should be phased in gradually.

Contribution limits to registered savings should be increased until eventually no dollar limit exists, although there would be a maximum allowable rate of contribution annually, based on total income. At the same time, the types of asset accorded registered treatment should be changed only after careful consideration of the costs of preventing abuse. On the borrowing side, provision should be made for registered treatment of loans.

Only owner-occupied housing and durables should continue to be given direct tax-prepaid treatment. In the case of nonregistered financial savings, a move in this direction could be accorded by expanding the existing interest and dividend deduction to include all forms of capital income and by increasing and indexing the allowed deduction.

Regardless of the tax base chosen, a series of changes should be made to enhance neutrality of the tax base. This list includes the full inclusion of capital gains, the removal of the lifetime capital-gains exemption of $500,000, and the full offset of capital losses. Tax brackets, exemptions, and deductions should be indexed at the full inflation rate. Deductions for capital income and employment income should also be indexed. The proposals for integrating the personal and corporate tax presented in Chapter 6 should be implemented to give interest and equity income equal treatment within registered savings. Finally, to maintain distributional and revenue neutrality the top marginal personal-tax rates should be lowered.

This package would enhance efficiency, horizontal equity, and simplicity. The tax base would be more neutral; savings decisions would be subject to less distortion; individuals would have greater scope for averaging over their lifetime; and the overall economic gains, as estimated in Chapter 4, would be impressive.

8 Indirect Taxes

At first glance, there would appear to be little connection between capital income taxes and commodity taxation. Appearances to the contrary, however, it is impossible to discuss reform of capital income taxes adequately without reference to indirect taxes on commodities:

Varieties of Indirect Taxes

Indirect taxes are characterized by their lack of reference to the individual taxpayer's ability to pay. A purchaser of a taxed commodity pays the same tax whether rich or poor, young or old, married or single, a foreign visitor or a resident, working or not working. Direct taxes, by contrast, can be tailored (more or less well) to suit the taxpaying capacity of each taxpayer, since they are imposed on persons rather than on their purchases.

It is, of course, possible to design an indirect tax that will take into account some of the individual circumstances of taxpayers. Thus an exemption of children's clothing from sales tax can approximate the results of an income tax deduction for dependent children. Or, heavier indirect taxation of luxuries than of necessities can have an effect similar to that of a progressive income-tax schedule. The extent to which indirect taxes can successfully serve the same ends as direct taxes is limited, however. Children's clothing, for instance, might be purchased as a gift by someone without dependent children or be worn by adults.

Nevertheless, there is a sense in which indirect taxes are equivalent to direct ones. A person who earns $100 can be made to surrender $20 to the government and spend only $80, by means of either a 20-per-cent income tax on the $100 or a 25-per-cent tax on $80 worth of purchases. The equivalence may be qualified, however, by certain technical complications arising from saving, investment, and depreciation, to which we shall return later.

For every transaction, liability for sales tax can be assigned to either the buyer or the seller, or even to both. In any case, the effects of the tax depend not on which side of the market is taxed but solely on the difference the tax creates between the price paid by the purchaser and the price received by the seller. Which side of the market is taxed may also make no difference in the cost of administration and compliance with the tax, provided the tax is a general one.

Indirect Taxes and Internationally Traded Goods

It is sometimes claimed that the question of whether the liability for tax is assigned to buyers or to sellers is important in countries such as Canada that have a very active foreign trade. Thus indirect taxes on domestic and foreign products can be set on either a "destination principle" or an "origin principle." Under the destination principle, commodities are taxed at the point of consumption, not their source, and thus imports are taxed and exports are exempt from tax. Under the origin principle, commodities are taxed at their place of production regardless of their use, and imports are not taxed but exports are. The difference between these "principles" is the same as the difference between taxes levied on buyers and those levied on sellers, or between taxes on income and taxes on outlays. There is really no difference if in every case the taxes in question are applied generally and at a uniform rate, and if commodity exports and imports are in balance.

It may seem that the tax system would favour exports under the destination principle and imports under the origin principle. If this were so, the bias would be a temporary one; it would last no longer - without further government intervention - than it takes to adjust exchange rates. The value of the Canadian dollar would be higher under the destination principle, and the difference in exchange rates would exactly offset the bias in indirect taxes. The principles at work here are the same as those which establish the equivalence of taxes on income and outlay, an example of which was cited earlier. If taxes were levied on imports (outlays) instead of on exports (incomes), the exchange rate would rise - and would rise sufficiently to permit the same volume of export/import trade.

Excise Taxes

As will be shown later, the case for a broadly based, indirect consumption tax depends on whether the direct tax in place is a comprehensive personal income tax or an expenditure tax. The choice of a direct tax, however, need not affect the decision to use excise taxes. To a limited extent, excise taxes may be a means of implementing the benefit principle of taxation. For example, if gasoline consumption taxes are earmarked for expenditures on road construction and maintenance, they may be a means of taxing the road user in proportion to his benefit from road use. Such benefit-related taxes go a long way toward solving the problem of how much government should spend and who should pay for it.

Some excises, such as those levied on tobacco and alcoholic beverages, are defended on the ground that heavy consumption harms individuals, third parties, or society at large. High rates of excise taxation make consumers aware of the costs and curb consumption.

Moreover, excise taxes can serve equity objectives, provided they are imposed on items that are more likely to be consumed by the well-to-do than by the poor. Historically, excise taxes were often used to tax luxuries. In 17th-century England, for instance, taxes on silks, coffee, and newspapers were considered to be more progressive than a one-shilling head tax. Although luxury taxes put different burdens on taxpayers with equal incomes but different tastes, they may enhance the vertical equity of the tax system by gearing tax payments to ability to pay.

Broadly Based Sales Taxes

Important qualifications arise from the fact that sales take place at various stages of production - that taxable commodities are used as intermediate inputs to produce other taxable commodities. At the end of the production/distribution chain, output is sold to either a consumer or an investor - most likely a company. If an indirect tax is applied only at this final stage and to all commodities except investment goods (which are really a type of production input), then the base of the indirect tax is the total purchases of consumption-related goods and services. A single-stage tax of this kind is a comprehensive, broadly based retail sales tax.

With one important exception, taxes imposed at several points in a production/distribution chain are apt to create serious disincentives to efficient use of economic resources. A tax on inputs that interferes with the choice of production techniques will encourage firms to integrate their activities vertically and is likely to create a haphazard and unintended pattern of changes in the prices charged to final consumers. The exception to this rule is the value-added tax, which exempts from tax the purchases of inputs from other firms. A VAT that also made allowance for capital depreciation would be based on net national income, and its economic effects would be very close to those of a broadly based income tax. Alternatively, if, instead of allowing depreciation, the VAT permitted the deduction of the entire outlay for capital goods in the year it was incurred, it would be equivalent to a tax on consumed income. With immediate expensing of capital goods, a VAT would fall entirely on the production of consumer goods and services. That is the European type of VAT.

International Comparison

As Table 8-1 shows, Canada relies rather heavily on indirect taxes relative to other OECD countries. This reliance is especially pronounced in the area of excise taxes, owing in part to the unusually high taxes imposed in Canada on tobacco and alcohol. (The figures in the table include the profits of the provincial liquor monopolies.) The importance of broadly based taxes is roughly the same in Canada as it is in most European countries but significantly greater than it is in the United States, where there is no federal counterpart to the manufacturers' sales tax. Since the definition and measurement of the tax base varies greatly among countries, it is impossible to compare tax rates directly. The table expresses total indirect taxes as a fraction of gross domestic product (GDP), which is used here as a common denominator or comparable tax base. On this basis it appears that the Canadian emphasis on indirect taxation is not out of line with practices in a number of

Table 8-1

Indirect Taxes in Canada and in Other OECD Countries, 1984

	Proportion of total tax revenue from:		Total indirect taxes as a proportion of:	
	Broadly based taxes	Selective taxes	Total tax revenue	Gross domestic product
	(Per cent)			
Canada	12.1	20.7	32.7	11.0
France	19.9	8.9	28.7	13.1
West Germany	16.8	10.3	27.1	10.2
Japan	–	15.1	15.1	4.1
Netherlands	15.7	9.7	25.5	11.6
New Zealand	12.4	14.7	27.1	8.4
Sweden	13.4	11.7	25.1	12.7
Switzerland	9.3	9.6	18.9	6.1
United Kingdom	14.7	15.8	30.5	11.7
United States	7.3	10.9	18.2	5.3
Average[1]	13.8	16.2	30.0	11.2

[1] Unweighted average of percentages for 23 OECD countries.

SOURCE Organisation for Economic Co-operation and Development, *Revenue Statistics of OECD Member Countries, 1965-85* (Paris: OECD, 1986).

European countries. In fact, with the recent elimination of the oil export levy, Canada probably relies less on indirect taxes relative to GDP than most European countries do.

Proposals to Change the Tax Mix

In earlier chapters we discussed the advantages of a consumption tax and measures that, through the use of registered savings or prepayment of taxes, would move the personal income tax system closer to a system of direct taxes on consumption expenditures over an individual's lifetime. Here, we deal with the indirect taxing of consumption through broadly based sales or value-added taxes.

No one seriously recommends the wholesale replacement of the income tax by a broadly based sales tax. The usual recommendation is that governments alter the tax mix by partially replacing the income taxes that are levied directly with a consumption tax that would be levied indirectly. According to the advocates of this measure, the consequent reduction in marginal income tax rates would create incentives both to save and to work, and would increase the horizontal equity of the tax system by helping to curb tax avoidance and evasion. While the list of benefits is impressive, the empirical significance of some of them is doubtful.

Proponents of a shift in the tax mix claim that cutting marginal income tax rates and increased reliance on indirect taxes would help to curb tax evasion, because the higher the marginal income tax rates, the stronger the temptation to avoid or evade taxes. In addition, monies that escaped the income-tax net when they were earned would be caught in the sales-tax net when they were spent. On the other hand, it could equally be argued that special interests can erode the indirect tax base as successfully as they have eroded the income tax base. Moreover, some avoidance activities, such as barter and home production, lie beyond the reach of any conceivable tax net. Those who conceal cash transactions in order to evade income tax might, with equal disregard, neglect to charge sales taxes or charge for them but fail to remit them.

These objections may say nothing more than that the temptation to avoid taxes would not be removed by a new tax mix. Much avoidance is quite legal, it being the taxpayers' right to pay only those taxes which clearly must be paid. Indeed, many of the expenses of legitimate tax avoidance are deductible from taxable income. The result can be a peculiar type of waste – a type exemplified by the fact that it pays a taxpayer in the 50-per-cent bracket to spend up to $2 to save $1 in taxes. A reduction in marginal tax rates would presumably reduce that kind of waste.

A stronger argument has to do with incentives to save. There is little question that a shift in the tax mix toward indirect taxes on consumption would increase the incentive for saving and thus the efficiency with which the economy allocates its capital resources over time. Because an income tax reduces net-of-tax interest income, it limits the extent to which a household can gain future consumption by postponing present consumption. Indeed, a single-rate general indirect tax on consumption is equivalent to the imposition of an equal-rate payroll tax on labour income. Thus a shift in the tax mix might lighten the tax load on capital income, but it would also increase the taxation of labour income. Any gain in capital-market efficiency would probably be offset to some extent by an increase in tax-induced inefficiency in the labour market.

Over time, greater reliance on consumption taxes would exert two opposing pressures on labour-supply decisions. On the one hand, workers would have an incentive to work more, since a tax incentive to forfeit current leisure in favour of future consumption would be inherent in tax-free income from savings. On the other hand, precisely because the income from savings would be excluded from the tax base, the marginal rates of tax on what remained of the base might have to be higher in order to maintain public revenues and services at their original levels. Higher marginal tax rates would by themselves deter the supply of labour. Which of these two contrary effects would be stronger is uncertain; at best, the effect of a change in the tax mix on labour supply is ambiguous. Recent research on Canadian labour supply indicates that the adverse effects of income tax on labour supply is relatively small, the cost being equal to about 3.5 per cent of the revenue raised.[1]

Indirect Taxes on Capital Income

Although indirect taxes are a significant part of the cost of capital in Canada, the capital-market consequences of Canadian indirect taxes are a somewhat neglected topic. As a first approximation, a 12-per-cent tax on the purchase price of a capital good is equivalent to a 12-per-cent tax on net capital income, if the sales tax paid is not added to the cost base used for the capital cost allowance. The effect of the capital-goods component of both federal and provincial sales taxes on the effective rates of tax on capital income, as estimated in Table 3-1, takes into account the deductibility of sales taxes in the course of CCA deductions. Overall, the indirect taxes add 3 to 4 percentage points to the effective tax rates on capital income in most industries. But the increase for two industries, construction and commercial services, is much larger. Other calculations suggest that sales taxes add significantly more to the marginal effective tax rates faced by new investment projects than does the corporate income tax (Table 8-2)! Sales taxes do have a tendency, however, to moderate the variation across industries in effective tax rates attributable to the corporate tax. This is so, largely because sales taxes weigh more heavily on machinery than they do on other business assets, whereas the reverse is true of corporate taxes. This has two implications. First, it is misleading to infer the incentive effects of capital income taxes from corporate income tax rates alone. Second, a sales tax reform can increase the variance of total-tax rates across industries, and this adds urgency to a corporate tax reform.

Table 8-2

Effective Marginal Tax Rates on Income from Capital, Canada, 1985

	With federal and provincial sales taxes	
	Included	Excluded
	(Per cent)	
Industry		
Construction	52.0	43.7
Transportation	44.0	41.8
Storage	39.5	37.6
Communications	49.4	42.4
Gas distribution	43.8	43.4
Trade	41.9	39.1
Commercial services	48.5	35.8
Manufacturing	29.3	26.0
Asset		
Machinery	26.3	16.0
Buildings	49.6	49.6
Inventory	43.1	43.1
Source of finance		
Debt	19.4	14.1
New share issues	51.7	48.2
Retained earnings	51.1	47.4
Owner		
Households	43.8	39.7
Tax-exempt institutions	10.9	5.5
Insurance companies	1.4	−4.6
Total	38.3	34.0

SOURCE M. J. Daly, J. Jung, and T. Schweitzer, "Toward a neutral capital income tax system," *Canadian Tax Journal* 34, no. 6 (November-December 1986), Table 8.

Reform of Indirect Taxation

Most observers agree that the federal sales tax, which accounts for about 14 per cent of federal tax revenue, has serious deficiencies. Labeled a "fiscal relic,"[2] the manufacturers' sales tax (MST) is more nearly a selective excise tax than a general sales tax, since 61 per cent of its yield is drawn from only six commodities. The MST base is the price at which a domestic manufacturer sells his product or, in the case of imports, the duty-paid value exclusive of transport costs to the Canadian border. As it excludes both services and trade margins, the MST base captures, in all, perhaps only about 30 per cent of the value of household consumption. The base also exempts exports; certain necessities, such as food, clothing, footwear, and drugs; and all producers' goods except building materials and office equipment.

For most items, the current nominal MST rate is 12 per cent; for construction materials and building equipment, however, it is 8 per cent and for alcoholic beverages and tobacco products, 15 per cent. The inclusion of construction materials and equipment in the MST base in 1963 was a major mistake – a significant departure from the principles of either taxing consumption or taxing value-added in manufacturing only once. As a result, most economic activities, including those which are nominally exempt from the MST, face an element of indirect tax on purchases of capital goods. In addition, both the MST and most provincial sales taxes apply to manufacturing output that is used in other production processes, including items such as office equipment, transport equipment, and fuels.[3] Taxation of intermediate inputs has the same economic effect as would a tax on production (albeit at a lower rate). Thus the federal and provincial sales taxes are really three taxes rolled into one: a tax on some consumption; an additional tax on production or value-added; and a separate tax on capital usage. These taxes correspond to the three distinct bases shown in Table 8-3. The table indicates that only about half of federal sales-tax collections originate in domestic consumer purchases. The remainder are accounted for by business purchases of capital goods (13 per cent) and intermediate products (36 per cent).

A further problem with the existing administration of sales taxes is that their imposition does not faithfully follow the destination principle, which exempts exports from taxation. While there is a clear intent to exempt exports and the mechanism for tax refunds is in place, this mechanism fails to remove all hidden sales taxes embodied in Canadian export prices. Moreover, the current MST falls partly on capital, and the foreign investor in Canada cannot demand credit for it from his home government. It can therefore be considered a deterrent to investment in Canada.[4]

Table 8-3

Federal and Provincial Sales Tax Bases, Canada, 1980

	Share of sales tax revenue	
	Federal	Provincial
	(Per cent)	
Tax base:		
Consumer expenditure	51.0	64.4
Investment	13.4	8.1
Intermediate inputs	35.6	27.5
Total	100.0	100.0

SOURCE C.-Y. Kuo, T. C. McGirr, and S. N. Poddar, "On measuring the effective federal and provincial sales tax rates in Canada," based on unpublished data from Department of Finance, Tax Policy and Legislation Branch, October 1985.

Reforming Sales Taxes

Proposals for sales tax reform – federal and provincial – must aim at the reduction, if not the complete elimination, of the variation in effective tax rates across commodities and at removal of the tax on inputs. There is an emerging consensus that if a federal sales-tax presence is to be maintained, only a retail form of the sales tax is worthy of serious consideration. Halfway measures, such as improved administration of the MST or its movement to the wholesale level of distribution, have been closely scrutinized and found wanting. Only a retail sales tax would remove the need for clumsy, notional value schemes and deal successfully with problems posed by private brands, transportation and distribution costs, exports, and non-neutrality toward domestic products that compete with imports.

Implementing a Value-Added Tax

As indicated earlier in this chapter, a VAT that does not tax purchases of capital goods is identical to a broadly based retail sales tax. Whereas a retail sales tax bites at the end of a production and distribution chain, a value-added tax nibbles at every link in the chain leading to the final consumer. Like a retail tax, a VAT would be neutral in its treatment of competing, taxed products, but it would probably be better than a retail tax at capturing services in the base and at applying the destination principle, since it is relatively easier under a VAT than under a sales tax to free exports from hidden taxes on inputs.

There are three approaches to the implementation of a VAT: the addition method; the subtraction method; and the credit, or invoice, method. Under the addition method, the taxpayer adds all payments for primary resources (interest, dividends, and retained earnings from capital, wages, and land rent). Under the subtraction method, taxable firms subtract from their sales all purchases from other firms. But most economists seem to favour the credit approach, under which the taxpayer remits tax on the value of total sales and obtains a credit for taxes already paid on purchases from other firms. The result is that *net* taxes are due only when goods and services leave the ring of licensed firms, which is at the point of sale to households. Each method may involve different administration and compliance costs, but only the last method would make it rather simple to avoid unintended taxes on export goods.

Under the European credit, or invoice, method, an exporter can get credit for sales taxes paid at previous stages of production, and thus export sales can be made free of all sales taxes. Under the subtraction method, however, it would be impossible to remove exactly all sales taxes imposed at prior stages unless the taxes were levied at a single rate on all inputs. If the tax were imposed at different rates on various commodities, the destination principle of taxation could not be applied precisely without an elaborate tracking mechanism to uncover sales taxes included in the cost of inputs deducted from the tax base.

The Business Transfer Tax

In its February 1986 budget, the federal government announced its intention to introduce a new business transfer tax, to replace the MST and to finance the repeal of current surtaxes on personal and corporate incomes.* Although the full details of the scheme have not yet been revealed, the BTT will most likely be a destination-based VAT, calculated by the subtraction method. A similar tax proposal has recently been debated in the United States (the Roth bill).

Under the BTT's subtraction method, businesses would not calculate their tax liabilities for each separate transaction but, instead, would perform an annual or quarterly calculation somewhat similar to an income statement. Purchases of intermediate inputs and capital goods would be deducted from sales, and exports would be excluded from total sales. Nevertheless, the BTT would not necessarily be better than the MST in applying the destination principle, unless it was imposed on a wide base and at a single rate.

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*More recently, on May 6, 1987, the Minister of Finance made reference to the possible introduction of a National Sales Tax (NST).

It remains to be seen how comprehensive the BTT will be and whether it will exempt essential items of consumption. In principle, the BTT base should include housing services, financial services, hospital and educational services, and consumption by nonprofit institutions and government. In practice, incorporation of these items in the base would add considerable complexity to the tax's administration. On the other hand, if any goods or services were exempted from the BTT, their producers would not be able to deduct inputs purchased from other firms, with the result that they would pay the taxes embodied in the prices for these inputs. Exemption in this sense would be different from the treatment of exports, which would nominally be subject to the BTT but taxed at a rate of zero per cent. The tax burdens on exempt production would not be uniform, since the burden in each case would vary with the ratio of primary to purchased inputs.

It is possible that the federal government might choose to use the BTT to do more than simply replace a defective MST. Once the BTT is in place, there could be the temptation to use it as a replacement for the personal income tax, the corporate income tax, or both. The February 1986 budget hinted strongly that just such a change in the tax mix may be in the offing. If the BTT were used for a wider purpose, some equity and international considerations would have to be addressed.

The Equity of a Business Transfer Tax

Personal and corporate income taxes are both more-progressive sources of finance than a broadly based BTT would be. We estimate that the use of a BTT to replace the revenue lost by eliminating the MST and the current surtaxes on both personal and corporate income would inflict a loss in real income of roughly one-half of 1 per cent on the bottom decile of the income distribution and confer a gain in real income of over one-third of 1 per cent on the top decile.[5] These figures are based on the distribution of income as it may appear at any one point in time. When income distribution is viewed in this manner, as it commonly is, income from capital is concentrated in the lowest and the highest income classes - especially, of course, in the latter. The capital income of the low-income class is explained by the concentration of mortgage-free home-ownership and accumulated pension savings among the retired and soon-to-be-retired. Any measure that reduced taxes on capital, including a substitution of the BTT for corporate income taxes, would increase the value of their equity. Of course, the lower end of the income scale also includes many people who have little or no equity. It is the effect that a BTT would have on this group that causes the greatest concern, since its members would pay the new tax without getting any relief on the personal and corporate tax side. There would be less cause for concern if housing services were zero-rated by the BTT, since these services represent a large fraction of low-income consumer budgets, but the change in the tax mix would still result in some residual inequity in the treatment of low-income households as a group.[6] This has sparked interest in the feasibility of relieving BTT regressivity by introducing an income tax credit that would be confined to lower-income groups. Not surprisingly, the burden of financing this tax credit would fall primarily on the middle-income classes.[7]

The introduction of a BTT would also affect interregional equity. Because of the progressive nature of the personal income tax and the provincial distribution of businesses subject to corporate income taxes, the use of a BTT to replace any portion of income taxation would help high-income, but hurt low-income, regions.

The imposition of a BTT on transport services could also have an impact on consumers outside central Canada, where the cost of consumption includes a relatively large charge for transport. Whether this impact was negative or positive would depend, however, on both the BTT rate and the extent to which current taxes on transport (motor fuels, transport equipment, tires, and other parts) were replaced by the new BTT.

International Aspects

The use of a BTT to lower personal and corporate income tax rates would diminish Canada's ability to tax the Canadian-source income of non-residents. Most of this income is capital income and would not be taxed by a BTT that allowed full deduction of capital expenditures. Indeed, while a BTT would not fall on capital, neither would it be creditable abroad. If the BTT were extended to replace corporate income tax collections, foreign investors would find that a creditable tax was being reduced and consequently their tax liability to their own governments increased. Canada would hardly benefit from such a measure.

In a similar vein, a BTT high enough to replace a significant portion of personal and corporate income taxes would encourage Canadian residents - particularly pensioners - to transfer their nonregistered savings and spend them in countries where sales taxes are low.

Summary

This chapter has examined the roles of indirect taxes in the tax system, looked at the case for reform of the federal indirect tax base, and considered some of the consequences of changing the current mix of direct and indirect taxes.

Proposals for reform of the federal sales tax have called, variously, for its elimination, for administrative refinements, for moving the tax to the wholesale level, and, finally, for replacing it by a retail tax. One way to achieve the last result would be to introduce a federal value-added tax. A broadly based, uniform VAT that replaced the manufacturers' sales tax could remove both the intertemporal and the intersectoral misallocations of capital characteristic of the existing tax. The recently proposed business transfer tax - a VAT under another name - promises to place federal indirect taxation on a more efficient footing, provided it were imposed on a broad base and at a single rate. The result would be improved if provincial sales taxes, too, were removed from business inputs and capital goods. The advantages of a BTT over existing sales taxes are such that it could be extended to serve as a substitute for personal and corporate income taxes. A shift of this nature in the tax mix could, however, both increase inequity and diminish Canada's ability to impose taxes on the Canadian incomes of non-residents.

9 The Property Tax in Canada

The property tax is one of the most important taxes on capital income in Canada, applying as it does to the capital value of land, buildings, and some types of machinery. In all, it affects about two-thirds of Canada's nonfinancial assets, and as we saw in Chapters 2 and 3, it contributes more to aggregate government revenue than does the corporation income tax. On new investment in the corporate sector, the property tax also adds more to the overall tax rate than does the corporation income tax. In addition, it is the only important tax levied on owner-occupied housing. As the single most important revenue source for local governments, it would appear to be here to stay. Yet the property tax is scarcely a favourite with critics of tax policy: it is widely attacked for its presumed regressivity; the enormous variability of its provisions from jurisdiction to jurisdiction, and even within jurisdictions; and its contribution to economic inefficiency. This chapter reviews the evidence relevant to those charges, with a view to putting some ideas forward for basic reform of the property tax.

Levying the Tax

The real property tax exhibits more variability than any other major tax levied in Canada. This is because administration of the tax involves provincial governments and some 4,700 separate municipalities, and the provision of municipal services varies from province to province. In recent years, many provincial governments have assumed responsibility for assessment of the property tax base, and as a result, there has been a noticeable improvement in assessment practices. Determining the statutory tax rates applied to each category of property continues, however, to be the responsibility of each individual municipality.

The property tax base is the assessed value of land and improvements in various property classes, such as industrial and commercial property, single and multiple residential property, farm land, and unimproved land. In most provinces, the tax base may also include equipment that is affixed to a building. The basis for assessment in virtually all jurisdictions is capital value. This does not mean, however, that all properties are assessed at market value. Properties in different classes are frequently assessed at different fractions of market value – an arrangement that usually favours residential properties at the expense of commercial and industrial properties. The period between reassessments of property also varies from province to province. Assessment at the provincial level ensures that there will be some consistency in the assessment of similar property categories within each province, though not necessarily across property categories.

Many provinces allow their municipalities to levy a different statutory rate on each of the various categories of property. As a result, commercial and industrial properties frequently face higher statutory tax rates than do residential properties. Many municipalities also levy a separate business tax, using a base similar to the property tax base, on commercial and industrial properties located in their jurisdiction.

Benefits Provided

Municipalities use their property tax revenues to finance the provision of goods and services locally. Some of these goods and services are directly related to real property; others are not. Property-related benefits include roads, sewers, water supply, garbage collection, and some portion of police and fire protection. In many cases, the cost of providing these services to a given property could be allocated to the individual property owner. Benefits not related to property (also known as people-related benefits) include education; health; social services; and, again, some portion of police and fire protection. These expenditures are usually redistributive or yield general social benefits.

Many of the goods and services provided by municipalities are "public goods" or "collective consumption goods" – goods that cannot be produced efficiently by the private sector. A public good has two important characteristics: first, the opportunity to consume it is available to anyone, without restriction; second, its consumption by one individual does not decrease the quantity available for someone else to enjoy. A street light is an example of a public good. Other municipal goods and services could be supplied by the private sector but are produced by the public sector because of third-party effects – namely, the benefits received, or costs borne, by those not associated with the activity. Examples of these goods might be snow removal and education.

Local Autonomy

An important rationale for the property tax is the desire for local autonomy. Subject to employment and income considerations, individuals will indicate the quantity and cost of local public goods that they want through their choice of a jurisdiction in which to reside (this is the so-called Tiebout hypothesis). Provision of goods and services at the municipal level enables local tenants and property owners to receive the quantity of public goods they want instead of a uniform quantity provided by a higher level of government.

It should be borne in mind, however, that the Constitution recognizes only two levels of government in Canada, federal and provincial. Municipalities are creations of the provincial governments; the power and responsibilities that they possess have been delegated to them by the provinces. If local autonomy is nevertheless desirable, then each municipal government must have control over a tax base of its own. The immobility of land and structures makes them an obvious choice for such a base. Local income taxes and sales taxes are two alternatives to the property tax, and many municipalities in the United States do make use of them.[1] An obvious alternative to locally administered sales and income taxes is revenue-sharing of these tax bases between provinces and municipalities, but this raises problems of the autonomy of municipalities in such arrangements.

Economic Effects

Various aspects of the property tax bear significantly on the distribution of income and individual and business investment decisions.

Tax Incidence

In the past, many observers have argued that the property tax is regressive in that it takes a larger percentage of income from low-income families than from high-income families. But because the tax is attached to property, the question of who ultimately pays it becomes important in assessing its incidence.

In the case of owner-occupied residential property, the incidence of the property tax is beyond dispute. The owner of the capital represented by an owner-occupied dwelling is also the consumer of the housing services, and it is he or she who pays the tax. In the case of properties other than residences occupied by the owner, it is another matter as to who ultimately bears the tax paid by landlords and businesses. This subsection briefly examines earlier and recent thinking about the incidence and regressivity, or progressivity, of the property tax generally.

Most of the earlier studies compared the property taxes paid with the current annual income of the taxpayer.[2] As pointed out in earlier chapters, however, the use of annual or current income may be misleading as a guide to the incidence of taxes, and it is more appropriate to consider incidence in relation to the long-term income of the taxpayer. There are particularly good reasons why the incidence of taxes on owner-occupied housing should be viewed in relation to long-term income. For instance, both young and retired families are disproportionately represented among low-income groups in annual-income data. The retired, however, may have substantial equity in housing and thus imputed rents that are not counted in income as conventionally measured.[3] Empirical studies of the relationship between the costs of home-ownership and long-term income in the United States have generally concluded that expenditures on housing increase less than proportionately with increases in long-term income.[4] If we take the view that the property tax is a flat-rate tax on the value of the house, then this evidence suggests that the tax is less regressive, however, than earlier calculations using annual income data.

Studies of property tax incidence should also take into account the tax relief that many provinces provide for low-income households. Several provinces allow homeowners to apply a property tax credit against provincial income tax liabilities. Chinloy found that when such tax credits were taken into account, the property tax became proportional to annual income.[5] Measures of this kind clearly reduce further the regressivity of the residential property tax.

In the case of industrial and commercial property, there are competing views concerning the incidence of the property tax. The traditional view is that the tax on such property is largely "shifted forward" to consumers of the goods and services. Proponents of this view treat the property tax as two separate taxes: a tax on land; and a tax on buildings. Land is in fixed supply, the argument goes, whereas the supply of buildings may vary. The tax on land is seen as being borne by landowners, while the tax on buildings is treated as being shifted forward to consumers of the goods and services produced in the buildings. To the extent that the percentage of income that consumers spend on goods and services falls as their income rises, the tax on commercial and industrial property is therefore said to be regressive.

By contrast, the "new view" of the property tax assumes that capital is in fixed supply for the economy as a whole but that it is perfectly mobile between jurisdictions.[6] If property taxes were levied at the same rate in all jurisdictions, there would be no tax-induced movements in capital from one jurisdiction to another, and the burden of the tax would therefore fall entirely on owners of capital. On the other hand, if property tax rates varied across jurisdictions, capital would move from relatively high-tax communities to relatively low-tax communities. As a consequence, the net return to capital in each jurisdiction is reduced by the average rate of property tax in the economy as a whole. Insofar as the rate levied by a particular jurisdiction differs from the average rate, the differential is shifted onto consumers (the excise-tax effect), resulting in higher prices for goods and services in high-tax communities and lower prices in low-tax communities. The latter effect will either cancel out across jurisdictions, if local residents are not mobile, or be capitalized into land rents, if they are mobile. Hence, whether the property tax varies between jurisdictions or not, its real incidence is still on owners of capital. Since the ownership of capital is concentrated in higher-income groups, the property tax is progressive in its incidence.

The old and new views of the property tax reach different conclusions about the incidence of the tax. One reconciliation of the two views asserts that each view answers a different question. The old view is seen as describing the incidence of a tax increase in a particular municipality. If one is interested in the incidence of a property tax increase on the part of a large number of municipalities or in that of a nationwide increase, then the new view is the appropriate one.[7]

Some observers try to avoid both these views by arguing that the property tax is the tax price for consuming various locally provided goods and services; the property tax, in other words, is a benefits tax, and since the taxpayer is simply paying for services received, the question of incidence is irrelevant. In fact, however, the property tax is related to the capital value of property and not to the consumption of municipal services. In some cases the two concepts are related, but they are not equivalent. For example, the assessed value and consequently the property taxes paid for a residential property often depend in part on the lot size and frontage. The cost of some municipal services, such as snow removal and police and fire protection, are positively related to these measurements. It would be difficult to argue, however, that people-related benefits - such as those from education or social services - are in any direct way related to lot size.

Average Effective Tax Rates

Effective tax rates on property are determined by both the statutory rate and the method of assessment. A comparison of statutory rates without reference to the method of assessment may therefore be misleading, since assessment methods vary by province.

Evidence on effective tax rates for all jurisdictions is impossible to obtain; it is necessary to rely on limited surveys. Table 9-1 shows the average effective property-tax rates on residential and nonresidential properties in 1978 for selected Canadian cities. The tax rates given in the table are for properties of similar size and location; the residential rates are for hypothetical single detached houses, and the nonresidential rates are for industrial properties. In all of the cities surveyed, the tax burden on nonresidential properties was heavier than the burden on residential properties. In Toronto and Dartmouth, the average effective nonresidential property-tax rates were three times higher than the residential property rates; in Halifax and Saint John, they were almost four times higher. Other surveys have reported similar findings. Later in this section we shall examine the problems of horizontal inequity and resource misallocation that could arise because of such differences in the taxation of residential and nonresidential properties. Table 9-1 also shows that the effective tax rates for similar types of real property vary considerably from municipality to municipality. Because the level of services varies by locality as well, however, it is not clear to what extent the variation in rates reflects horizontal inequity in the treatment of each category of property.

Table 9-1

Residential and Nonresidential Property Taxes, Canada, Selected Cities, 1978

	Proportion of market value	
	Residential taxes	Nonresidential taxes
	(Per cent)	
St. John's	0.99	1.84
Charlottetown	1.82	3.64
Halifax	1.69	6.45
Dartmouth	1.51	4.57
Saint John	1.15	4.32
Québec[1]	1.97	3.06
Toronto (Scarborough)	1.41	4.18
Winnipeg	1.67	3.30
Regina	1.59	1.97
Edmonton	0.86	2.04
Calgary	0.86	2.30
Victoria (Saanich)	1.03	2.81
Vancouver (Burnaby)	1.16	2.90

[1] Residential property is in Sillery; nonresidential is in Ste-Foy.

SOURCE Adapted from F. H. Finnis, "The weight of property taxation in Canada - Single-family dwellings and light industrial property," *Canadian Tax Journal* 28, no. 3 (May-June 1980):311, Table 9.

Marginal Effective Tax Rates

The property tax makes a significant contribution to the total tax burden (corporate, personal, indirect, and property taxes) on marginal investment in the Canadian corporate sector, as Table 3-1 indicated. The point was also made in Chapter 3 that exclusion of property taxes results in a reduction of over 4 percentage points in the overall tax rate for the nonfinancial corporate sector and also reduces the variation in effective tax rates. The impact of the property tax is, however, unequal across industries and different types of assets. Construction and commercial services are the industries most affected by the tax; as was shown in Chapter 8, these industries also bear the highest burden of indirect taxes. When all capital income taxes are considered, the property tax leads to buildings being more heavily taxed than other assets, such as machinery or inventories.

The property tax in Canada does not contribute as much to the total-tax rate on new investment as does the property tax in the United States.[8] Nevertheless, as Chapter 3 indicated, the contribution of the property tax to the effective total-tax rate on investment in Canada is more significant than either the corporate income tax or indirect taxes.

Horizontal Equity

Critics of the property tax system have pointed to the fact that properties of equal market value in the same taxing jurisdiction are often assessed unequally for tax purposes or are taxed at different rates. The main cause of this phenomenon is usually found in the administration of the property tax and is not due to the tax as such.[9]

For instance, it is common practice in many jurisdictions for residential properties to be assessed at a lower percentage of market value than business and commercial properties. Single detached residences are valued less than apartments. Newer properties are often subject to higher valuations for tax purposes than older ones of the same market value. Finally, improved land is assigned a higher value for tax purposes than unimproved land of the same market value.[10]

Inconsistencies in assessment can arise within a jurisdiction or can manifest themselves across jurisdictions. They may be introduced intentionally; for instance, to encourage particular uses of land. In Ontario, for example, car parks are assessed at 25 per cent of market value for purposes of the business tax.[11] Inconsistencies may also arise unintentionally because of the difficulty in determining the market value of a property in the absence of an actual transaction. A principal source of such unintentional inconsistencies is the infrequency, in many jurisdictions, of the assessment process. Properties that are developed after the most recent assessment are assessed on the basis of their value when they first come onto the market. The lags between assessments may be very long in particular municipalities; in Toronto, for instance, market-value assessments have not been performed for 40 years.

In practice, such inconsistencies in assessment may not be unduly serious from the point of view of horizontal equity, since these inconsistencies will be capitalized into the price of the property. Given a competitive market, properties that have a favourable assessment (in other words, properties that are underassessed) relative to the average property in their category will sell at a premium, while properties that have an unfavourable assessment will sell at a discount. Removal of such inconsistencies in assessment, however, would confer a capital loss or gain if the property were subsequently sold.

Statutory tax rates are set by municipalities. As a result, even if provincial assessors evaluate all properties at a constant fraction of market value, the owners of comparable properties in adjacent jurisdictions can easily end up paying different effective property tax rates. Unless the rate differentials are matched by benefit differentials, a situation of this kind creates inequities.

A major source of horizontal inequity is the common practice of favouring residential over nonresidential property in both the assessment process and the setting of tax rates, with the result (as Table 9-1 has shown) that nonresidential property bears a disproportionate share of the property-tax burden. An argument frequently advanced in defence of this disparity is that the businesses and industries occupying nonresidential property impose extra demands on municipal services, it thus being thought only fair that they pay extra for these services. Empirical evidence related to this point is limited, but it would appear that, in fact, nonresidential property makes *lighter* demands on municipal services than does residential property.[12]

The bias in favour of residential property has also been defended on the ground that it corrects an inequality in the treatment of property taxes for income tax purposes: nonresidential property taxes may be deducted from taxable income, but residential property taxes may not.[13] What this argument overlooks is that the income tax system provides advantages to the owner-occupiers of residential property that are not available to the owners of nonresidential property. Homeowners do not have to report any imputed income from their residences; nor do they have to pay tax on any capital gains from the sale of their homes. On balance, in fact, the advantage may lie on the side of the homeowners, since many owners of nonresidential property have insufficient business income to use all of the deductions available to them.[14]

Resource Allocation Effects

Differences in assessment and rate-setting can affect the allocation of resources in the economy. Thus the imposition of a higher effective tax rate on one sector than on another can translate into misallocations of capital between the sectors, unless this difference is offset by an equivalent difference in the level of benefits that each sector receives. If the difference in rates is not offset, capital will tend to flow out of the more highly taxed sector and into the less highly taxed one. An important source of misallocations of this kind arises from the fact that nonresidential property is invariably taxed at a higher effective rate than residential property.

In the case of nonresidential property, the property tax provides a disincentive for investment in land and buildings and a corresponding incentive for investment in other factors of production, including machinery and equipment.[15] This incentive reinforces the incentive for investment in machinery and equipment provided by accelerated depreciation allowances in the corporation tax. Other things being equal, because the property tax falls primarily on land and buildings, an industry such as warehousing and storage will be taxed more heavily than an industry such as trucking.[16]

Although the property tax contributes in several ways to distortions in the capital market, it also provides a second-best remedy for distortions that arise from other sources. For instance, the tax on residential property compensates for the inefficiencies created by other taxation policies, such as the corporate income tax and, in particular, the exemption from personal income taxation of imputed rent from owner-occupied housing. Two recent studies have shown that if there is no change in the corporate income tax, an increase in the residential property tax rates along with a decrease in business property tax rates will improve resource allocation.[17]

Exporting the Tax

Part of the property tax burden imposed in a municipality can be shifted to consumers and owners of factors of production outside the jurisdiction either directly through prices or indirectly through the return to investments that enter into the property-tax base. Another way of exporting the burden outside the taxing jurisdiction is through the incidence of the property tax on other governments.

A tax can be exported if it is creditable or deductible under other tax systems, or if it affects the terms-of-trade. The U.S.-owned businesses in Canada, for instance, get a foreign tax credit in their home country for corporate income taxes paid in Canada. No credits are given for property taxes, however, since they are regarded by the U.S. tax authorities as a user fee for services to business property, and not a tax on profits. Nevertheless, in Canada, property taxes are deductible for corporation tax purposes and are therefore borne partly by federal and provincial governments. Furthermore, there is some evidence that Canada could export a portion of nonresidential property tax through improved terms-of-trade. Such an improvement would occur to the extent that property taxes were borne by foreigners in the form of higher prices for Canadian exports. In addition, property taxes result in a reduction in the returns to nonresident owners of capital that is immobile internationally.[18]

If it is possible to share the burden of taxes between domestic and foreign treasuries, it would obviously be in Canada's national interest to do so. The arguments given in Chapter 8 concerning the desirability of substituting corporation income taxes for noncreditable indirect taxes also apply here. A loss of local autonomy might occur if corporation income taxes were substituted for some or all of the nonresidential property tax, but this outcome could be mitigated if provincial and municipal governments were to engage in some form of sharing of corporation income tax revenues.

If it is possible to export some of the property tax burden - i.e., to have non-residents contribute a higher proportion of local taxes - there will be a tendency to provide too many local public goods. One study has estimated the efficiency cost of such tax exporting at between 35 and 55 cents per dollar of revenue from the nonresidential property tax.[19] Tax exporting may nevertheless be defensible to the extent that locally provided public goods and services enter the production process.

Reform of the Property Tax

There are a number of ways that the property tax system could be altered so that taxes would relate more closely to benefits received.

Benefits Tax

Attempts to reform the property tax must begin with the fact that the revenue collected by the existing property tax is used to finance the provision of both property-related and people-related benefits. Property-related benefits generally accrue to identifiable property owners, while the relationship between the property tax base and people-related benefits is less close. Expenditures on people-related benefits are either redistributive or they yield general social benefits. The recipients of people-related benefits may be the inhabitants of the municipality at large or specific, identifiable individuals in the municipality; in neither case will the benefits be restricted to property owners.

Many economists have advocated restructuring the property tax as a pure benefits tax for property-related services.[20] The principle of benefit taxation works well when both the benefits and their distribution are clearly defined, when the charges are closely related to their costs, and when income distribution is either not an issue or not much affected by the benefits tax. Thus many of the real and alleged problems associated with the present tax regime would either disappear or cease to be relevant because the tax base itself would change.

Instead of being a flat tax on the assessed value of the property, a pure benefits tax would simply be the cost of property-related services. There would be an end to the process of assessment and thus an end, as well, to the inequities and the lengthy and costly appeals that the process creates. The problem of the alleged regressivity of the property tax would also disappear. The tax would become simply the price of various property-related services, so that the question of regressivity would be no more relevant to the consumption of these services than it is to the consumption of privately produced goods. To the extent that tax exporting exists, a shift to a benefit-based property tax would enhance efficiency, since local services are a cost of production and would be reflected in the price of the goods.

If the property tax were reserved for the provision of property-related services, how could local people-related benefits be financed? There are at least three possibilities. One solution would be to give municipalities access to more comprehensive income or sales taxes by allowing them to piggyback their own rates on top of provincial rates or by giving them a percentage of provincial tax revenues.[21] A second option would be to increase the level of conditional and unconditional grants to municipalities (preferably the latter, if local autonomy is valued). Third, local people-related expenditures could be assumed by the provincial governments, who would substitute other more broadly based taxes for the portion of property tax revenues presently used for education, social services, and other people-related benefits. The latter two alternatives would, of course, necessitate higher provincial taxes.

It is important to recognize that progress has already been made along these lines. Municipalities have user fees for many local public goods and services, and have increasingly relied on special assessments to pay for additional capital facilities. In addition, the local financing of certain people-related benefits has fallen over time. Some provinces have also engaged in limited forms of unconditional revenue sharing with their municipalities.

Residential and Nonresidential Tax Rates

Given that a limited reform of the property tax is more likely than transformation into a pure benefits tax, there is a good case for ending the current discrimination against nonresidential property relative to residential property. The limited empirical evidence available indicates that residential property owners receive more services from municipalities than do nonresidential property owners. They benefit from both property-related and people-related expenditures, whereas nonresidential property owners usually receive only property benefits. To a limited extent, nonresidential property owners may benefit indirectly from some people-related expenditures because of externalities or third-party effects. But so do residential property owners.

One possible way of ensuring a more equitable division of the property tax burden would be to implement a two-part property tax system.[22] One part would apply to all property types and would be based on the benefits that property owners receive from property-related services. The other part would recover the costs of people-related benefits and would be imposed primarily on residential property owners - although some provision could perhaps be made for taxing nonresidential property owners at a lower rate, to account for the indirect benefits that they receive. If property tax relief were desired for certain businesses or low-income homeowners, it could be accomplished separately through cash grants or tax credits.

Assessment

Strictly speaking, if the property tax were transformed along the lines of a benefits tax, the periodic assessment of property for tax purposes would no longer be necessary. If, however, a tax on real property is necessary to finance property-related expenditures not funded through user charges, then the way in which the tax is administered affects the way in which property owners perceive the tax and react to proposals to change it.[23] As long as the assessed value of property is used as a tax base, the method of evaluation will be an important factor in the perceived equity of the tax.

Inconsistencies in assessment are a problem primarily because they confer windfall capital gains or losses that are realized when a property is sold. Provincial assessment authorities could minimize unintentional inconsistencies in assessment within their jurisdictions by introducing uniform assessed-value/market-value ratios for all properties. The adoption of full market-value assessment would also make it easier for taxpayers to determine the accuracy and fairness of their assessments. Such a determination is not easy when properties are assessed on the basis of a fraction of their market value a decade or more ago. Finally, full market-value assessment would make apparent one major source of discrimination against nonresidential properties – the tendency to assess nonresidential properties at a higher fraction of market value than residential properties. The problem of differential statutory tax rates for the residential and nonresidential sectors would remain, but if all properties were assessed at market value, any discrimination between property classes would become more obvious.

Conclusion

The property tax "has been labelled 'unfair' because "it is" unrelated to ability to pay, 'unrealistic' because "it is" unrelated to benefits and 'unsuitable' because it supports services unrelated to property."[24] This chapter has argued that while the property tax is not as regressive as is commonly believed, much of the criticism of the property tax is valid, particularly with respect to its current administration and application.

We believe that wherever possible greater reliance should be placed on user charges for property-related benefits. Some municipal goods and services are already provided by means of user charges, but there is considerable room for improvement in this respect. If the property tax were recast as a benefits tax, questions of its effects on resource misallocation and its incidence would cease to be issues altogether.

One question remains – that of funding local people-related benefits, which are primarily of interest to the owners of residential property. We have suggested several options for reform: 1) giving local governments access to the income or sales tax bases; 2) increasing intergovernmental grants; 3) having higher levels of government assume greater financial responsibility for people-related benefits at the local level; and 4) placing more emphasis on the residential property tax. At the same time, effective tax rates for commercial and industrial properties should be reduced to make them match more closely the level of benefits that the owners of these properties receive.

10 The Taxation of Natural Resources

This chapter discusses the tax treatment of income from investment in the mining and the oil and gas industries, which experienced perhaps the most tax changes over the last 15 years. The taxation of resource industries merits special attention in a separate chapter because they are subject to a variety of special tax provisions. Moreover, unlike the case in other industries, provincial ownership of basic resources is a significant factor in the taxation of these industries.

Canadian governments capture natural resource revenues in three ways:

- through direct taxation – that is, by federal and provincial taxes on profits;
- by Crown royalties, and by auctioning leases to the private sector at the exploration and development stages of a project; and
- by having the primary production of natural resources done by Crown corporations, whose profits accrue to governments.

Given the topic of this study, we shall examine only the use of taxes and royalties.

Taxes and Crown royalties can be deceptively similar, since both are fiscal exactions on resource industries. But royalties are also viewed as rents paid to the owners of mineral rights and are comparable to rents and royalties generated in other industries, and even by the same resource industries where they exploit privately owned mineral rights. Viewed in this way, royalties are not taxes but, rather, deductible costs of business inputs, and Crown royalties were indeed deductible for federal income tax purposes from 1917 to 1974. Currently, a federal resource allowance substitutes for such deductibility.

Efficiency of Available Instruments

Both the timing and scale of resource development and extraction can be affected by taxes and royalties, to the detriment of economic efficiency. The main effects that we are concerned with are as follows:

- *The cutoff-grade effect* occurs mainly when natural resource production is subject to a gross royalty or to a tax levied per unit of output. Such a tax creates a wedge between the unit revenue that a producer receives and the market price of the resource, so that marginal, low-grade deposits that would otherwise be extracted are likely to be left in the ground. To avoid this problem, provincial governments have designed royalty systems in which certain operating costs are deductible or the rate is lower for less-productive oil and gas wells or mineral deposits.

- *The exploration effect* arises because taxation reduces the net returns from exploration.

- *The factor-mix effect* occurs when a firm uses a labour/capital ratio that is different than it would be if the resource were not taxed. For example, by raising the cost of capital, a tax on profits reduces the incentive to employ more cost-effective technologies or more efficient applications of a given technique. A procedure sometimes observed to avoid this problem is to allow the deduction of only "best-practice," rather than actual, costs.

With these effects in mind, we can examine the main advantages and disadvantages of the various types of taxes used to capture revenues from the production of nonrenewable natural resources.

Production Tax

A production tax is one levied on the quantity or value of output produced – e.g., a gross royalty. This type of tax is easy to administer, but it tends to have a cutoff-grade effect. The fact that production is taxed means that there is a disincentive to extract the resource, and consequently there is also likely to be less exploration and development than there would otherwise be.

The cutoff-grade problem can be avoided by replacing a gross royalty with a net royalty, calculated as a percentage of revenues minus production costs. This, however, gives rise to the factor-mix effect, especially if the costs of only some inputs are deductible or if the net royalty is levied at a high rate.

A sliding-scale royalty allows for productivity differences between wells or deposits by imposing a higher royalty rate on those with a higher productivity. Such a tax is complicated in that measuring productivity is difficult, and rates may have to be different for each well or deposit. Several jurisdictions have tried to solve this problem by designing formulas that use "level of production" as a measure of productivity.

Tax on Profits

The taxes on profits in the resource sector are federal and provincial corporate income taxes and provincial mining taxes. Graduated taxes on mining profits (levied at rates that increase with the amount of profits) have also been imposed by some provinces until recently. Such graduated taxes affect a resource firm's production over time by making extraction less attractive in periods of high profits. If a tax on profit is levied at high rates, it will also provide a disincentive to lower costs.

Some corporate-income-tax features are specific to the resource sector. Depletion allowances, for example, reduce the cutoff grades, thereby increasing the amount of a resource that a firm is likely to extract. Earned depletion, however, does not have that effect unless eligible expenditures have already been undertaken. For some types of mining assets, accelerated depreciation has been found to generate a significant increase in the amount extracted.[1]

A point worth noting is that economists very often favour a profit tax over a royalty (a production tax) on the ground that it is more efficient. The difference in efficiency between the two becomes significant, however, only when tax receipts represent a large share of total resource revenues.[2]

Calculation of Effective Tax Rates in Canada

Today, in Canada, profits originating in the resource sector are subject to three types of taxes: 1) a federal income tax levied on taxable income at a rate of 36 per cent but reduced to 27 per cent by the resource allowance, not counting the surtax; 2) provincial income tax levied on taxable income at rates that vary between 10 and 17 per cent, depending on the province in which the firm operates; and 3) royalties and mining taxes imposed by provinces and territories at various rates.

Royalties and mining taxes are specific to the resource sector. (Many, in fact, are specific to certain industries.) Federal and provincial corporate income taxes apply to both resource and non-resource firms, but some of their provisions apply only to the former. Examples include the earned depletion and resource allowances at the federal level and the processing allowances at the provincial level, as well as the federal disallowance of deductions for provincial royalties, mining taxes, and similar resource payments. Some capital consumption allowance classes are also particular to the sector. Moreover, unclaimed exploration and development expenditures, and earned depletion, can be carried forward indefinitely by resource firms.

Clearly, the tax provisions to which resource industries are subject are numerous and complex. In this section we examine the aggregate impact on the resource sector's cost of capital of all taxes, royalties, exemptions, and allowances. To do so, we use two measures: the average effective tax rate, which is the rate that applies to income generated by the existing capital stock; and the marginal effective tax rate, which is the tax rate that applies to new investment (that is, additions to the existing capital stock). The latter is the better measure of investment incentives embedded in the tax laws.

The resource sector pays a lot of corporate income taxes, not to mention royalties and other special levies. For the oil and gas industry in 1980-81, the average federal tax rate, expressed as the ratio of taxes paid to financial-statement income, was 21.8 per cent; in the mining sector, this ratio was 13.2 per cent. The corresponding figure for the economy as a whole was 18 per cent.[3]

Marginal Effective Tax Rates

Marginal effective tax rates provide us with a picture of the tax system's impact on investment decisions - the aggregate effect of all of its provisions on income from new capital invested. A negative marginal tax rate signals a tax subsidy to the firm - the government is, in effect, contributing to the capital income of shareholders and creditors of a firm.

Marginal effective tax rates are useful in that they signal dispersion in tax rates more clearly than average effective rates. Moreover, as we have seen, marginal tax rates can be positive, negative, or simply uneven and discriminatory, even if average effective tax rates are positive and stable. If this is the case, looking at only average rates gives a false impression of what penalties and incentives are built into the tax system.[4]

Rates for Mining Industries

While average tax rates are positive for mining industries, (13.2 per cent in 1980), a recent study found negative marginal tax rates on investment in most types of mining assets in Quebec and Ontario.[5] Specifically, the study found that the tax system as a whole subsidizes investment in mining exploration and development, as well as processing. New mine assets are subsidized. At the exploration and development stage, negative tax rates are common, because expenses are immediately deductible. The negative rates for processing result from earned depletion and processing allowances. Building and machinery assets are taxed, but not as much as inventories.

When the researchers looked at the various types of taxes separately, they found the federal and Quebec *corporate-income* tax rates to be negative, whereas Ontario's income tax is slightly positive. Some of the provincial *mining* tax rates were positive, but in Quebec this industry-specific levy encourages investment in exploration, development, and processing.

Rates for the Oil Industry

A similar situation appears to exist in the oil industry. Research undertaken at the Council on the tax treatment of the Alberta oil industry indicates that when federal and provincial corporate taxes, personal income taxes, and royalties are taken into account, new investments associated with exploration, development, and extraction are all effectively taxed at more than 30 per cent.[6]

Data on tax rates in the Alberta oil industry (Table 10-1) reveal that the corporate income tax subsidizes new investment at all stages, although the personal income tax system taxed development and production in certain circumstances. The cumulative impact of the corporate and personal income taxes is to subsidize new investments in the oil sector. Royalties raise the level of taxation to positive levels and also make it more neutral.

Detailed analyses show that the inclusion of sales tax on capital inputs and of property taxes has a noticeable effect on the results. About one-half of a percentage point of each marginal effective tax rate at the development and extraction stages is attributable to sales tax on machinery and equipment. An additional point at all stages of production comes from including property tax in the calculations.

It is important to note that the results presented here are for firms with a low proportion of Canadian ownership, which did not get petroleum incentive payments (PIPs). The tax rates for companies with high Canadian ownership rates, which did get PIP grants, are more negative (or less positive), implying lower fiscal burdens for the firms and thus higher overall rates of subsidy.

It is also important to know that the marginal effective tax rates have varied considerably over time (see Charts 10-1 to 10-4). For example, the disallowance of Crown royalty deductions for federal income tax purposes resulted in a large increase in the level of taxes facing resource firms in 1974. The National Energy Program (NEP), introduced in 1980, had very mixed effects on tax rates; the program was dismantled after the Western Accord in March 1985. Subsequently, royalties were reduced and made more sensitive to profits from high-cost oil and gas projects.

Table 10-1

Marginal Effective Tax Rates for the Alberta Oil Industry, Firms Not Eligible for Petroleum Incentive Payments, 1982

	Corporate taxes[1]		Corporate and personal taxes[2]	
	Including royalties	Excluding royalties	Including royalties	Excluding royalties
		(Per cent)		
Exploration	– 167.6	– 252.1	..[3]	..[3]
Development[4]	– 35.4	– 360.8	31.0	– 134.5
Extraction[4]	26.7	– 360.8	22.7	– 134.5
Depletable assets	– 51.3	– 76.1	37.7	27.5

1 Federal and provincial income taxes, property and sales taxes, and, in the columns indicated, Crown royalties. Bonus bids are excluded from the calculations. All the figures are for "new oil."

2 Taxes at the corporate level plus personal taxes on capital income (interest, dividends, and capital gains).

3 Since no capital inputs are used at the exploration stage, no combined corporate and personal tax wedges can be computed for that stage.

4 The figures presented for the development and extraction stages are for 1981 since investment at that stage is subject to fiscal measures that make the required rates of return for 1982 close to zero (and even negative in some cases). The marginal effective taxes expressed as percentages of such small numbers tend to be not only positive but very large - an artificial increase that makes them lose any useful meaning.

SOURCE M. Éthier and D. Simard, "Marginal effective tax rates for the oil industry in Alberta, 1965-84," Discussion Paper 314, Economic Council of Canada, Ottawa, October 1986.

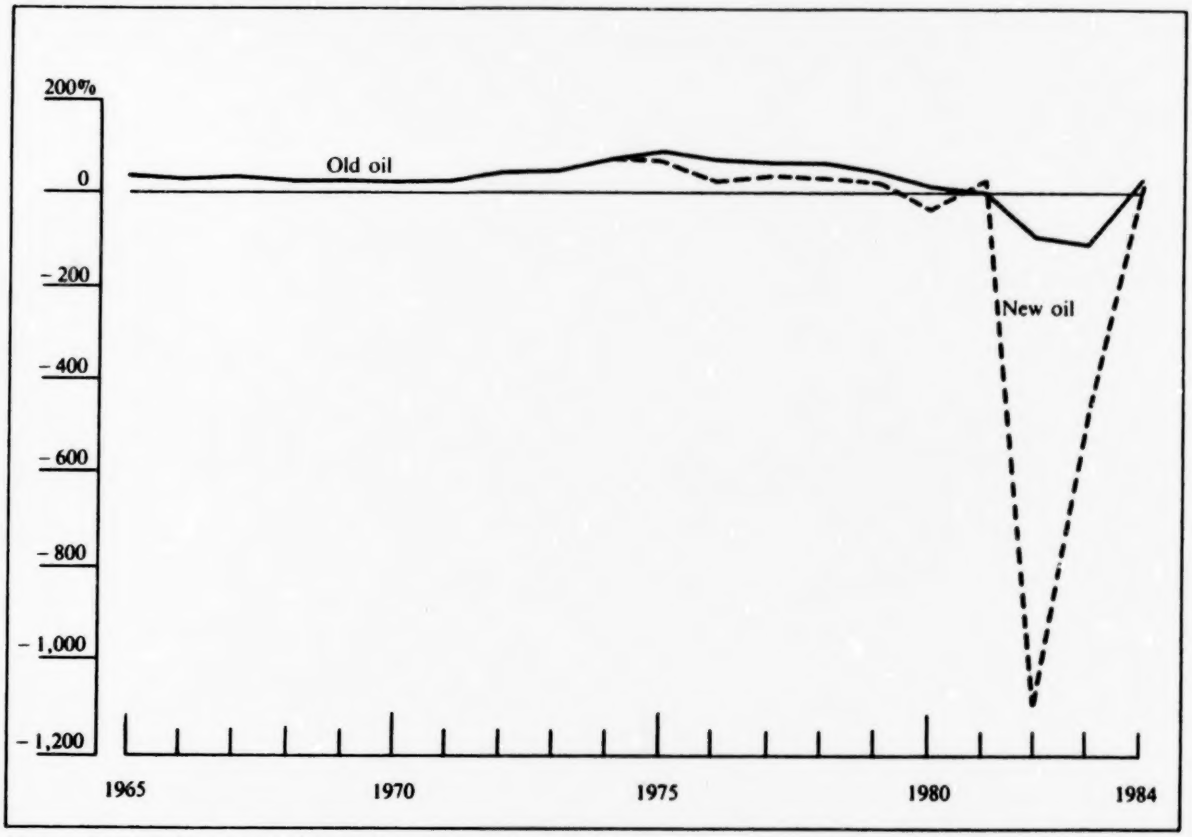
Some Conclusions

Recent tax changes may have reduced the average and marginal fiscal burdens on the resource industries. On the other hand, declines in product prices have reduced profits to the point where many companies are unable to take advantage of tax incentives, and the effect is very much like an increase in taxes. Nevertheless, different parts of the tax and royalty system still give conflicting signals to the industries concerned.

It is difficult to compare the fiscal treatment of the resource sector with that accorded other sectors of the economy because the effective tax rates are computed

Chart 10-1

Personal Income Tax Rates plus Corporate Tax Rates and Royalties on Machinery and Equipment Capital at the Development Stage in the Oil Industry, Northern Alberta, 1965-84



SOURCE Based on data from M. Éthier and D. Simard, "Marginal effective tax rates for the oil industry in Alberta, 1965-84," Discussion Paper 314, Economic Council of Canada, Ottawa, October 1986.

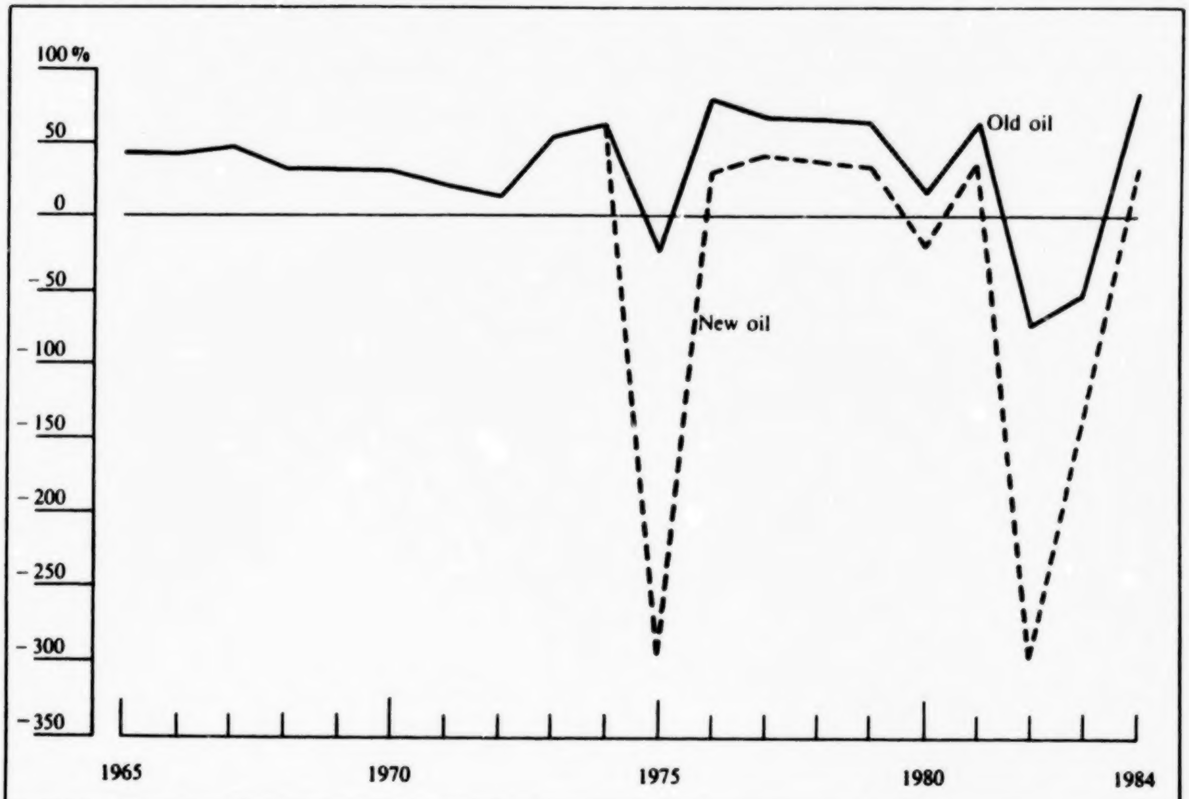
differently.[7] For the resource sector, marginal effective tax rates were calculated for the economy as a whole over the period 1963-78. Generally, the figures showed that the corporate income tax subsidized the holding of land and machinery but taxed buildings and inventories (especially inventories).[8] Since the corporate income tax was found to subsidize investments in the oil and gas industry at several stages of production, we conclude that the system gives preferential treatment to the resource sector - a result consistent with findings of the Department of Finance.[9] The tax treatment becomes less preferential when the effects of royalties are considered, since in many cases high royalties seem to offset low or negative income taxes. If the higher income taxes imposed on other industries were levied on the resource sector and if royalties were made deductible, a similar result could be obtained.

Improving the System of Resource Taxation

Exploration is in many ways comparable to industrial research and development and should be equally deductible for the sake of tax neutrality. Processing allowances should, however, be cut back. Such allowances were originally intended to ensure that mining taxes would fall only on mining and not on the processing of minerals. In recent years, however, they have achieved the char-

Chart 10-2

Personal Income Tax Rates plus Corporate Tax Rates and Royalties on Engineering and Construction Capital at the Development Stage in the Oil Industry, Given a Canadian-Ownership Rate of up to 50 per cent, Northern Alberta, 1965-84



SOURCE Éthier and Simard, "Marginal effective tax rates."

acter of special incentives and should be redrawn to suit their original purpose.

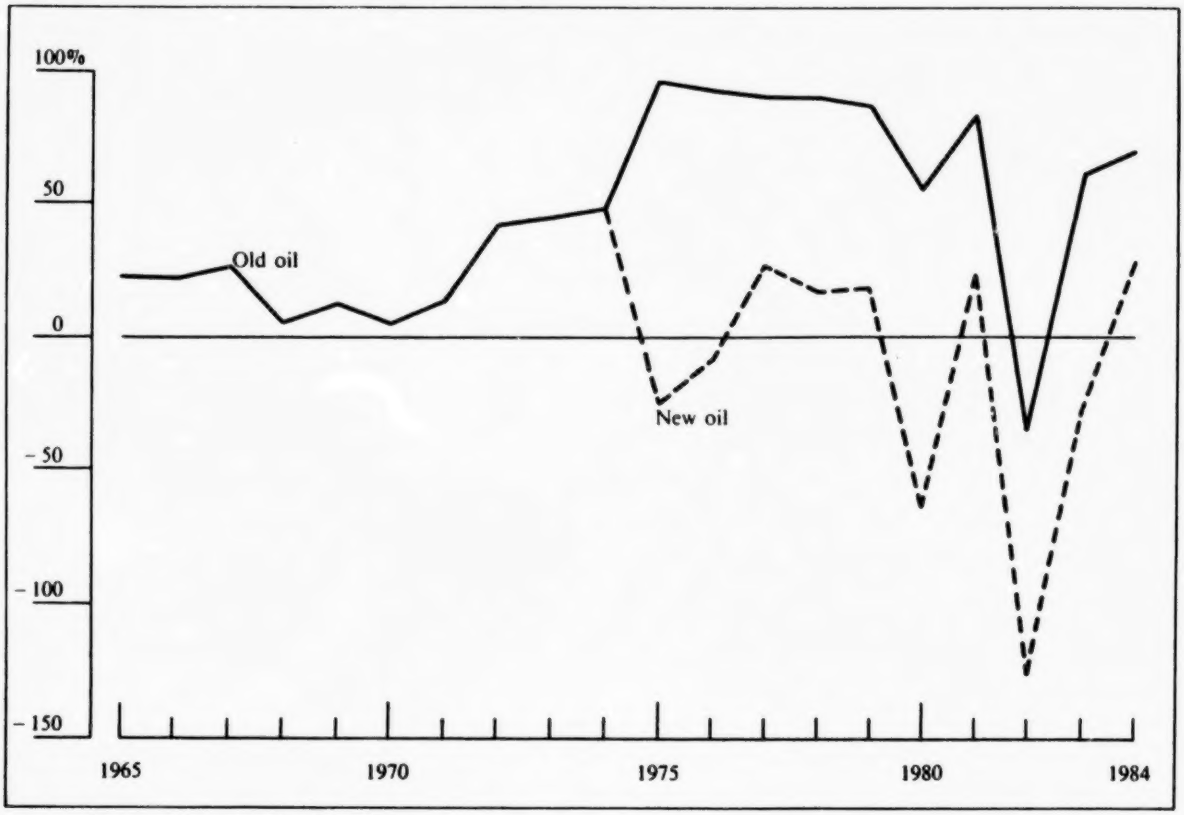
Other prime candidates for reform are earned depletion and the federal treatment of Crown royalties and provincial mining taxes. At present, royalties and taxes are offset by the resource allowance, which is a set percentage of resource revenues. This allowance can be more or less than royalty and mining tax payments actually made by different firms, or even for activities within the same firm. Reform would mean reinstating the deductibility of royalties and mining taxes for federal tax purposes, and abolishing the resource allowance. To maintain revenue, the federal government could disallow a fraction of the royalty and mining tax deductions that are in excess of the current resource allowance.

The immediate expensing of exploration and development expenditures, for both the mining and the oil industries, and the earned depletion and processing allowances for the mining sector are largely responsible for the negative marginal corporate-tax rates in those two industries. Moreover, these deductions benefit mostly established companies, which tend to be in a taxable position, while smaller, younger companies are at a disadvantage. At least in the mining sector, there is evidence that junior companies that are in a nontaxpaying situation face financial problems because - not being taxpayers - they derive no advantage from incentives in the system.[10]

Variance in tax rates from positive to negative is only one aspect of non-neutrality in taxation. Another is the

Chart 10-3

Personal Income Tax Rates plus Corporate Tax Rates and Royalties on Machinery and Equipment Capital at the Extraction Stage in the Oil Industry, Northern Alberta, 1965-84



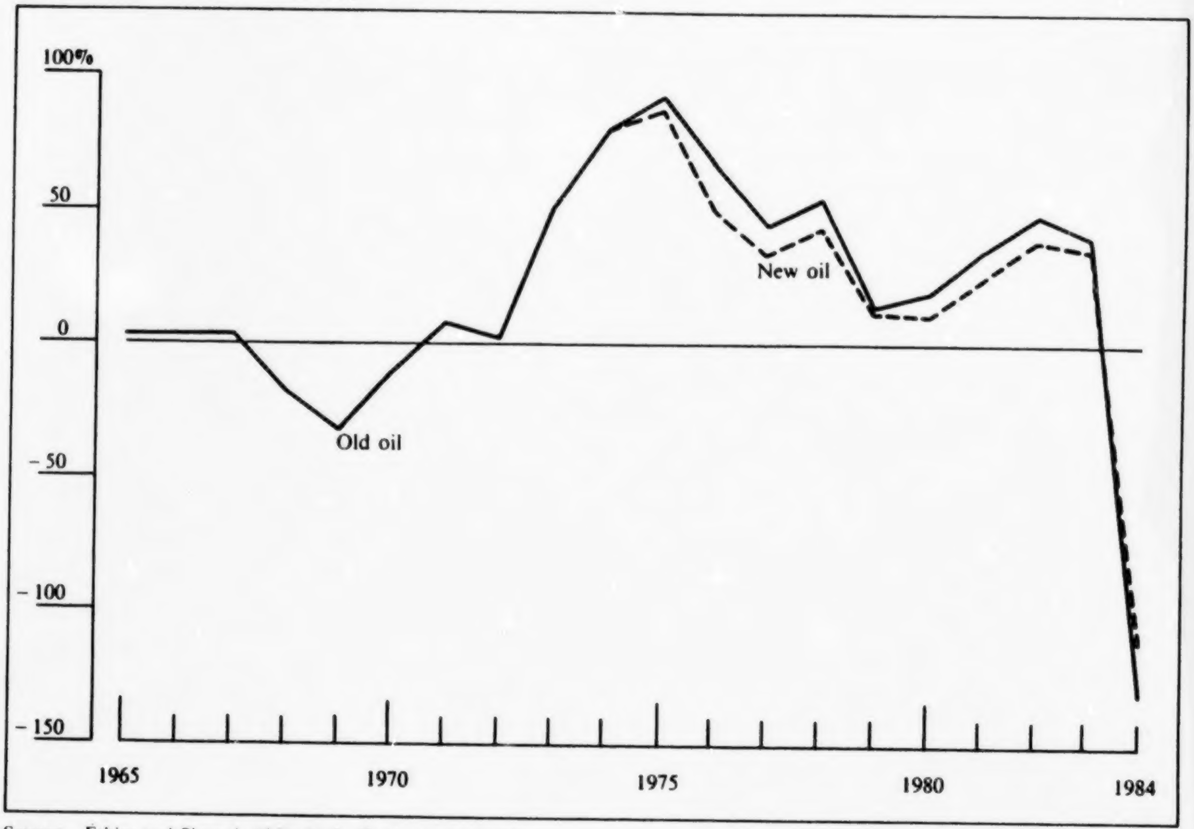
SOURCE Ethier and Simard, "Marginal effective tax rates."

asymmetric treatment of profits and losses, which takes on special importance in cyclical industries perceived as risky. The current tax system recognizes the problem by allowing indefinite carry-forward of some unused deductions, and in Chapter 6 we argued that interest should be added to such carry-forwards. The current tax system also provides instruments such as flow-through shares that can be used by nontaxable companies to transfer unused tax deductions to private investors. This practice appears surprisingly expensive, especially when similar results could be achieved with refundable taxes.[11] Flow-through instruments, however, have the advantage of putting tax incentives to some market test and thus may yet be found to be more efficient than the alternative.

It should be noted that the Carter Commission recommended, nearly 20 years ago, that resource firms be treated the same as other industries, and several analysts of the resource sector have recently recommended measures similar to those which we are proposing.[12] We think that marginal effective tax-rate calculations such as we have presented here can strengthen the basis on which such recommendations are made.

Chart 10-4

Personal Income Tax Rates plus Corporate Tax Rates and Royalties on Depletable Assets, Alberta, 1965-84



SOURCE Ethier and Simard, "Marginal effective tax rates."

11 Summary and Conclusions

The Focus on Savings and Investment

Canadians want – and are entitled to – a tax system that shares the burden of taxes simply and fairly, promotes rather than obstructs the attainment of higher living standards for all groups in society, and encourages responsible government. In this study, the Council has considered how to advance toward these goals by reforming the taxation of capital income – savings and investment. We believe that many of the principal complaints about the inefficiency, inequity, instability, and complexity in our tax system arise from its treatment of savings and investment. The principal reason for the focus of our study, however, is our belief that the taxation of savings and investment can play a key role in determining our present and future output and living standards. In this chapter, we shall summarize the conclusions drawn from our research that led us to propose the reforms outlined in earlier chapters. Our recommendations, which were previously published, are included in Appendix A.

Problems with the Present Tax System

During the enquiry, the Council found ample justification for public criticism of the present taxation of savings and investment. According to our research, when personal, corporate, sales, and property taxes are all taken into account, marginal effective tax rates on investment income vary enormously with industry, asset type, and method of financing. In 1985, for instance, we found that effective tax rates on various new investment projects ranged between − 78 and + 102 per cent. Clearly, such departures from a neutral tax system divert capital resources from their most productive uses into activities that are less productive but yield greater after-tax returns because of the preferential tax treatment they enjoy. Society is not well served when investments that are losers on the basis of business judgment turn into winners because of the tax system. Put another way, with a non-neutral tax system, the productivity of capital in the economy is effectively lowered and, with it, output and income levels.

We have also found that our tax system may apply one effective tax rate to the citizen who wants to consume now but another far higher effective tax rate to a citizen in similar circumstances who wants to save now and consume in the future. By thus shifting a larger part of the tax burden onto those who have a stronger preference for consuming in the future, the current tax system turns out to be not only inequitable but also inefficient. At the individual level, overtaxing future consumption distorts the planning of consumption through time. At the aggregate level, the implicit subsidization of current consumption constitutes a disincentive to capital accumulation in the economy. Through time, this translates into lower output, wages, and consumption levels than would otherwise be attainable.

A non-neutral tax system also encourages taxpayers to minimize tax liability by converting one type of income into another (e.g., dividends into capital gains), which in turn creates the need for further legal constraints to prevent tax avoidance. The result is an unnecessarily complex and constantly changing tax system, entailing real costs for firms, individuals, and the tax authorities. Indeed, as we have seen, the tax system is so complex that close to two out of five federal taxpayers now have their personal income tax returns completed by others. Its instability is demonstrated by the fact that over 300 pages of amendments to federal-income-tax legislation were added to the books in 1986 alone.

Moreover, with the erosion of the tax base by the introduction of tax concessions for some investors, attempts to maintain tax revenues lead to higher tax rates for others, who then demand tax concessions for their own activities. The complexities in the tax structure associated with various tax breaks also undermine taxpayers' confidence in the fairness of the tax system.

Finally, we have found that large parts of the tax system are hidden from the average citizen, and we believe that more visible taxes would serve to promote responsible government.

Main Issues in Tax Reform

We believe that the principal prospect for improvement in the taxation of saving and investment lies in basing reform on a clear and consistent principle. In this respect, three issues have dominated our enquiry: the appropriate base for taxation; the breadth of any tax base chosen; and the mix of taxes used in the choice of the tax base.

We note that different countries and governments have taken different approaches to these questions in recent years. The federal government in the United States has chosen to reform its tax system by broadening the base of an annual-income tax, with no integration of corporate and personal income taxes and no adjustments for the effects of inflation on capital income. Many other OECD countries are broadening the base of their income taxes while moving to greater integration of their corporate and personal tax systems. Some of them have also shifted the mix in their tax systems to increase the share of revenues obtained by transaction or "indirect" consumption taxes.

The federal government in Canada is also currently proposing or implementing a number of tax changes, such as broadening the base of the corporate income tax and increasing the share of this tax in overall federal revenues, expanding the share of indirect consumption taxes in the overall tax mix, and increasing the extent to which income taxation resembles a tax on lifetime income by allowing greater amounts of registered savings under the personal income tax system.

The Scope of Our Enquiry

We have imposed two restrictions on our enquiry that are particularly important: those of revenue neutrality and of distributional neutrality. The first restriction simply means that we have assumed it is not our business to change government revenues in the process of tax reform. Although we recognize the importance of reducing government deficits, we are of the opinion that tax increases to achieve that objective would be more economically sound and politically acceptable if carried out on a suitably reformed tax base. With respect to the distribution of income, the issues are inevitably divisive, and we have no special knowledge as to what the desired distribution should be. Such judgments are, in any case, the responsibility of our elected representatives. Our approach has been to seek tax arrangements that would increase the size of the total social pie; but yet we leave discussion as to the appropriate division of the pie to wider debate in the political process as a whole.

We have also stressed that our enquiry has not been restricted to one level of government or to any particular type of tax on capital income. Indeed, we find that there are many interactions among taxes on savings and investment and that such taxation must therefore be treated as an interconnected system. For these reasons, we are opposed to piecemeal reform. For instance, we have found that it would be desirable to remove sales taxes from investment goods and services. Since both federal and provincial governments add about the same tax burden to new investments through sales taxes on capital goods, reforms should be undertaken by both levels of government. Moreover, reforms in sales taxation should be simultaneously accompanied by reforms in the corporate income tax.

Finally, we should emphasize that the prime focus of this report has been on how the structure of Canadian taxation could be modified so as to achieve a number of longer-run goals, most notably a more efficient allocation of resources and hence a higher overall standard of living. To attain short-run macroeconomic objectives, such as providing an immediate stimulus to employment, the best approach would be through the proper mix of fiscal policy (i.e., the total amount of taxes to be levied and the appropriate levels of government expenditure) and monetary policy - not through taxation policy.

Reform in Specific Tax Sectors

In earlier chapters of the report, we have shown that the personal tax is not only the most important direct tax on individuals but the main source of tax revenue for federal and provincial governments. Our conclusions concerning the reform of personal taxation appear below, followed by those on corporate taxation; sales taxes; the taxation of resource industries; and, finally, the property tax.

The Personal Tax System

The main inference to be drawn from our research is that tax reform should move personal taxation toward a lifetime-income tax system. By taxing individuals on a cash-flow basis during their lifetime, such a system would result in greater efficiency, equity, and simplicity. To ensure the full taxation of income earned or received during a lifetime, savings would be deregistered and taxed upon death.

The annual-income tax system now in place taxes income when it is earned, as well as the return to the fraction of income that is saved. The result is a reduction in the rate of return to saving or, as we have shown, a substantial excise tax on future, relative to present, consumption. It thus distorts private economic decisions with respect to the choice of consumption patterns. Another consequence is a lower level of capital accumulation in the economy than would prevail in the absence of the double taxation of savings.

The advantages of a lifetime-income tax are fivefold. First, it is more efficient than an annual-income tax system, since it does not distort economic decisions concerning the allocation of consumption through time. As a result, the average individual would be better off over his or her lifetime. Second, it is more equitable than an annual-income tax. Individuals with equal command over goods and services would pay equal lifetime taxes, irrespective of their time preferences for consumption or the fluctuations of their income flows. Third, it is a simpler tax because it does not require accrual accounting. Fourth, it treats investment in human capital (i.e., education and training) and physical capital symmetrically. Finally, no inflation adjustment of capital income is required for registered savings.

In the long run, our research leaves little doubt that a lifetime-income tax would produce additional benefits from a sizable boost in investment. Since labour would have more buildings and more machinery and equipment with which to work, labour productivity and output would increase. With increased employment opportunities and higher real wages, working Canadians would benefit the most. It is true that estimates of the effects of taxes on output, investment, and growth are among some of the most controversial in economics. Nevertheless, simulations done for the Council suggest that even if domestic investment did not increase at all, the adoption of a lifetime-income tax would generate an early increase of 1 per cent in the annual income of the average Canadian. But if domestic investment were to increase significantly, as we think it would, moving to a lifetime-income tax would produce even greater benefits. Our simulations suggest that over an extensive period of time it could lead to substantial increases in per-capita output and real wages and, in the process, enhance the average Canadian's standard of living by as much as 7 per cent.

When the financial circumstances of individuals are considered on a lifetime basis, the appropriate rate for taxes levied annually will not necessarily bear a direct relationship to current income. The tax system would have to provide an averaging mechanism. Individuals normally use savings to smooth out their consumption patterns over their lifetime; as taxpayers, they could achieve a large measure of do-it-yourself income averaging under a combined system that allowed savings to be held in both registered and unregistered forms. Taxes on savings accumulated in registered assets would be deferred until they were withdrawn. Individuals could then smooth their tax liabilities over time by altering the mix of registered and unregistered assets that they held. In Canada, we have already moved in that direction. The treatment of owner-occupied housing, together with the provisions for holding registered savings in the form of RRSPs and RPPs, make the present system a mixed one that, with modifications and a more complete integration of the corporate and personal tax systems, could come close to a lifetime-income tax system.

Such a system has as its objective the removal of the non-neutralities in the tax base associated with the current income tax. The length of a lifespan, however, is as uncertain as it ever was, and therefore an individual could die before paying the appropriate amount of tax on total income. Hence consideration must be given to the treatment of savings or investment up to and at time of death.

In this respect the current tax system already contains the mechanisms that would permit the attainment of a lifetime-income tax. For registered accounts, deregistration and taxation as income upon death are in accord with lifetime principles. Apart from the obligatory deregistration at age 71, the only feature that moves the tax away from a lifetime-income base is the tax-free rollover provision between spouses, which we regard as reasonable. For nonregistered assets in general, the present system, which taxes all monetary returns generated by the assets – including the deemed realization of capital gains at death – is consistent with a lifetime principle. But deductions for capital income, like the $1,000 deduction for interest and dividends under the current system, could allow some income during a lifetime to escape taxation. The measures needed to prevent such a leakage, while still allowing for the deductions, would be complex and would involve unacceptably high administration and compliance costs. The workable compromise is to limit the size of any such deduction, as is now done.

Would not a lifetime-income tax system be regressive in its incidence? There is no inherent reason why it should be. Our research has centred on the treatment of savings and investment to obtain a neutral tax base. In doing so, the marginal rate structure was altered only to maintain the same distribution of tax burdens. Like an annual-income tax, a lifetime-income tax could be made more or less progressive by choosing the appropriate structure of tax rates and personal exemptions. Simulations done for the Council to determine the effects of a lifetime-income tax, using current tax rates, showed that the tax burdens of various income classes would change very little: the overall incidence of taxation would be even slightly more progressive than it is now.

Corporation Taxes

The wide dispersion in marginal effective tax rates on income from corporate investments can be attributed largely to the provisions of the corporation tax. The main culprits have been the investment tax credit (now being phased out), accelerated depreciation allowances for machinery, and the unfavourable tax treatment of equity - compared with debt-financed investments. These tax provisions favour firms and industries that are highly leveraged and that invest relatively heavily in machinery - a situation that is exacerbated by high statutory corporation-tax rates. The remaining disparities in marginal effective tax rates are due to the preferential statutory tax rates that apply to firms engaged in manufacturing and processing, as well as to small businesses; to the differences in statutory tax rates between provinces; and to the imperfect integration of the corporate and personal income tax systems.

As pointed out in Chapter 6, a cash-flow corporation tax would have a number of advantages over the present system. First and foremost, it would remove many of the main non-neutralities arising under the existing tax regime that interfere with investment decisions. Second, it is not sensitive to inflation, and therefore does not require indexation. Furthermore, since neither indexation nor the calculation of true economic depreciation for tax purposes would be necessary, a cash-flow tax base would be much simpler to administer than an income base.

We have also pointed out, however, that despite the advantages of a cash-flow corporation tax, certain obstacles would have to be overcome before such a tax system could be implemented. The main obstacle to a cash-flow corporation tax in a capital-importing country like Canada involves the uncertainty over the creditability of such a tax under foreign tax systems - particularly that of the United States, Canada's principal source of foreign capital. The greater the divergence between Canada's corporation tax base and those of countries investing here, the less likely are Canadian taxes on foreign-owned companies to be offset by foreign tax credits. This situation would tend to discourage foreign investment in Canada unless our tax treaties were renegotiated and foreign tax laws were perhaps amended in order to allow a degree of crediting similar to that which is currently permitted. In view of the fact that it took about 10 years to reach the existing Canada-U.S. tax agreement, both governments would probably be reluctant to renegotiate the treaty in the near future.

On the other hand, it is by no means clear that cash-flow corporation taxes paid in Canada by foreign investors would not be creditable under existing foreign tax laws. Hence the foregoing obstacle to Canada's adoption of a cash-flow type of corporation tax may not be as formidable as has sometimes been suggested. In any event, we regard the adoption of a cash-flow business tax as a desirable long-run objective.

In the meantime, however, a great deal could be done to improve the present corporate income tax. Essentially, we have suggested broadening the tax base and cutting statutory tax rates, while maintaining the corporate-income-tax share of total tax revenue at the current level. Such a strategy would reduce the role of the corporation tax as a tool to influence the allocation of investment and transform it into a withholding tax on real equity income. This strategy would also involve indexing capital cost allowances and restoring the recently abolished inventory allowance but then reducing those allowances insofar as investments are financed by debt. It would also entail better integration of the corporation and personal tax systems, particularly with respect to income from registered savings.

While the type of corporation tax that we are proposing would still fall short of a neutral tax system, it would be a great deal better than what we have now, especially if it were combined with the other changes in personal, property, sales, and resource taxation suggested in this report.

Sales Taxes

Reform of the federal sales tax is overdue. Various reform possibilities have been discussed over the years, and the federal government is examining the possibility of replacing its sales tax with a new business transfer tax.

From the point of view of the taxation of income from capital, one of our more surprising findings was that sales taxes add more to the *level* of rates of tax on income from new investment projects than the corporation income tax itself. This effect is far from being intentional, since indirect taxes are not supposed to apply to business inputs such as investment goods. Nor did we find that the practice of taxing business inputs was restricted to one level of government. Although retail sales taxes as imposed by the provinces are usually regarded as preferable to taxes at previous levels of distribution such as the federal manufacturers' sales tax, both levels of government impose about equal tax burdens on investment goods.

A good case can therefore be made for changes to existing instruments of indirect taxation, and our research supports a replacement of the federal sales tax with a business transfer tax or an equivalent value-added tax on consumption. As we have implied, however, such a tax change would only solve half of the present problem of input taxation. While recognizing that provincial sales-tax legislation already goes some way in that direction, additional improvement could be achieved by removing investment goods from provincial sales taxes.

The business transfer tax that is now being examined by the federal government would certainly be an improvement over the existing federal sales tax and would in many respects be equivalent to the value-added tax that was previously under consideration. It is important that it be levied at a uniform rate. Otherwise, the administrative cost and complexity of such a tax would be greatly increased, and the treatment of exports would be as erratic as it is under the current sales taxes.

The current federal sales tax is largely hidden from consumers. To increase the accountability of government, we strongly favour visible taxes. A new federal business transfer tax might appear to be as well hidden as the sales tax it would replace. But if the new tax is applied broadly - without exceptions, and at a single, uniform rate - citizens need only know the rate, to figure out how much federal tax is included in the price they pay. They would not need to know all the other details in the application of the tax. For this reason and those given in the previous paragraph, the new transfer tax should be imposed at a uniform rate and with as few exemptions of consumption goods and services as possible, so that it will be as visible, simple, and capable of making appropriate border-tax adjustments as it can be. Visibility could also be increased by quotation of the tax at the retail level.

Another of our findings was that sales taxes, while raising the *level* of taxes on new investment income across industries and assets, reduced the *variation* in them. This is because the burden of sales taxes levied on purchases of capital goods is borne entirely by machinery, thereby partly offsetting the incentives for investment in machinery provided by the corporation tax through accelerated capital cost allowances. To the extent that tax-rate variation shows up in consumer prices, the current sales tax system therefore makes the distribution of the tax burden among consumers more even than it would otherwise be. Extension of sales taxes to a wider range of goods, and especially to services, by the adoption of a business transfer tax or some other mechanism could *increase* this variance of tax burdens on regions, industries, and consumers. Therefore, broadening the sales tax base should be linked to changes to other parts of the tax and transfer system. Foremost among these other changes would be measures to increase the neutrality of corporate taxation (by changing capital cost allowances), the provision of extended personal sales-tax credits to low-income people, and the indexation of transfer payments to low-income people.

A new business transfer tax would certainly have to replace current federal sales-tax revenues. Beyond that, it would also provide an opportunity for a revenue increase that could be applied to reduce personal taxes. There are reasons for and against such a change in the tax mix.

Quite apart from the disadvantages of sales or business transfer taxes in implementing distributional objectives, revenues raised by these taxes would not be creditable against taxes in the "home" countries of foreign investors. To the extent that it is possible to share the burden of taxes equally between foreign and domestic treasuries, it is obviously preferable to do so. Furthermore, so long as they continued to be applied on the "destination" principle, indirect consumption taxes would provide incentives to save tax-free in Canada and to spend in income-tax countries abroad. The replacement of direct corporate and personal tax revenues with revenues from indirect, destination-based taxes would thus carry with it two potential disadvantages: a loss of foreign tax credits; and the provision of wrong incentives to Canadian savers. These are some of the reasons for not favouring a major shift from direct to indirect taxes.

Finally, however, we recognize that further reductions in personal tax rates beyond those already made since 1971 would have positive effects. By themselves, they would lessen the importance of any distortions that might remain in the tax system. They would also simplify compliance and administration by reducing incentives for taxpayers to avoid taxes. Horizontal inequities in the tax treatment of families and unattached individuals are also diminished when personal tax rates are reduced. Changing the tax mix away from personal taxes toward increased sales or business transfer taxes would thus have both negative and positive aspects.

The Taxation of Resource Industries

Resource industries pay taxes, and are subject to tax provisions, that no other industry in Canada faces. One special tax provision is the federal disallowance since 1974 of deductions for royalties, mining taxes, and other resource-related costs. This represents a special tax that is only partially offset by the federal resource allowance. The combined effect of provincial royalties and of their federal tax treatment varies from one sector of the resource industry to another, and even among activities carried on inside the same resource-industry firm. In spite of the disallowance of royalty deductions, the marginal burden of taxes on new resource-industry investments is often negative unless royalties are included in the calculation. A similar result could be achieved by reinstating the deductibility of royalties and mining taxes, while withdrawing the resource allowance.

Other tax provisions notable for causing variance in effective tax rates are federal earned depletion allowances and provincial processing allowances. Their withdrawal would affect mainly mining companies and would be partly offset by the recommended general rate reduction.

The Property Tax

Thoroughgoing reform of taxation on savings and investment should not stop with changes to personal, corporate, and transactions taxes, for the role of the property tax is also extremely important in our system of capital taxation. Indeed, our simulations indicate that the property tax accounts for more of the overall marginal effective tax rate on a new investment than either the corporation tax or transaction taxes. And, of course, the property tax is the single most important revenue source for municipalities.

We identified several major problems with property taxation in the course of our study. In the first place, not only are commercial and industrial properties typically assessed at a higher proportion of market value than residential properties, they frequently pay a higher statutory rate of tax on this higher assessment. The end result is that in some cities, the effective tax rate for nonresidential property is three times higher than that for residential property. Property taxes paid by business are being used, in effect, to support services to residential property and people-related services.

We also note that, unlike corporate or personal income taxes, property taxes are presently not creditable against home-country taxes paid by foreign investors in Canada. Based on practice elsewhere in the world, foreign tax authorities view property taxes as a user fee for services to business property. This becomes important when we find that property taxes are much more important in determining the effective tax rate on new investment than corporate taxes. If it were possible to finance public services by means that were creditable against foreign taxes, there could be net gains for Canada.

For both of these reasons, we believe that people-related services should be financed by people-related taxes and that services to property should be financed by a suitably redefined property tax.

Comparison with U.S. Tax Reform

The ideas for tax reform considered in this report have much in common with the tax reforms being undertaken, or proposed, in Canada, the United States, and other countries. For example, many countries - including Canada and the United States - are broadening the base of the corporate income tax by stripping out incentives and lowering statutory tax rates. The intent of all of these reforms is to increase the role of business judgment - and decrease the role of the tax system - in the selection of investments.

We would go further, however, and suggest that the corporate income tax base relate more closely to real, rather than nominal, income. Past experience has taught us that an unindexed corporate income tax system is accident-prone. An indexed corporation tax ought to be viewed as an insurance policy, needed to ensure that any renewed outbreak of inflation will not, once again, seriously distort investment decisions or provoke the kind of *ad hoc* tinkering with the tax system that contributed to its instability and erratic nature in the past.

In another important respect - the integration of business and personal taxes - recent U.S. tax legislation differs substantially from past practice in Canada, from the trend in other industrialized countries, and from the proposals considered in this Report. The United States is one of the few OECD countries that has not moved to reduce the double taxation of corporate shareholders by integrating personal and corporate income taxes. Indeed, the recent U.S. tax legislation removes the last vestige of integration in their tax system. We do not think the U.S. example should be followed in this respect; indeed, our proposals would increase the integration of personal and corporate income taxes in Canada.

On the side of personal taxation, our suggested shift toward a personal lifetime-income tax through greater use of registered saving contrasts with the recent move in the United States to curtail the deductibility of such saving and thereby confine the personal tax base to annual rather than lifetime income. Our suggestions would be similar to U.S. legislation in insisting that capital gains be taxed like other income, with appropriate offsetting changes in tax rates to maintain distributional neutrality.

The suggested changes should not adversely affect Canada's attractiveness from an investment standpoint, because they are not intended to increase the overall tax burden on business investment income. By contrast, in the United States, the revenues raised by corporate income taxes are expected to increase by 22 per cent over the next five years in order to finance a 5-per-cent cut in personal taxes. Corporate taxes are, of course, borne by people. While the long-run incidence of corporate income taxes is not altogether clear, there is a widespread presumption that in the short run at least, the burden of increased corporate income taxes in the

United States will fall on shareholders. Compared with our proposals, therefore, the recent U.S. tax legislation will increase the burden of taxation on capital income in the short run and have uncertain effects in the long run.

Nationally and Globally?

Making structural changes to the tax system could create short-run disturbances in the economy that a responsible government would have to consider. To provide information relevant to that concern, we simulated as closely as possible, with the Council's econometric model CANDIDE, the shorter-run effects of the type of changes proposed here. Despite our use of relatively "harsh" or unfavourable assumptions, the results of the simulations suggested very strongly that major changes of the type we have proposed could be made in the tax system with no significant adverse consequences for growth and employment. Indeed, simulations even indicated substantial short-term gains in output as a result of the more efficient allocation of resources.

Over the long term, other Council simulations leave no doubt that the result would be a large increase in output - an increase that would, in turn, allow for reductions in tax rates, yet keep the government deficit on a declining growth path.

Finally, by achieving a more efficient allocation of investment - and thus higher productivity throughout the economy - our suggestions would enhance Canada's overall competitiveness from an international standpoint. Such a strategy is in direct contrast to the existing one, which attempts - through tax allowances or exemptions - to maintain or improve the international competitiveness of selected industries at the expense of productivity in the economy as a whole. The important message is that if the tax system can contribute to attaining efficiency in the allocation of our resources, our competitive position in the world economy will most certainly be enhanced.

The research findings summarized in this report, together with the conclusions drawn from them, provided the basis for the 20 policy recommendations presented by Council in its *Road Map for Tax Reform*. These recommendations, together with pertinent text, are repeated in full in Appendix A of this report.

Appendix A

Recommendations for Policy Change

The modifications to Canada's taxation of savings and investment recommended in the Economic Council of Canada's statement entitled *Road Map for Tax Reform* are as follows:

Personal Income Tax

With respect to the personal income tax, the main thrust of the Council's recommendations is to nudge the system further toward a lifetime-income tax.

Capital Gains

The full inclusion of capital gains in taxable income is consistent not only with a more neutral lifetime-income tax base, but also with an annual-income tax base.

It will have a tremendous simplifying effect on a personal lifetime-income tax. While it will still be necessary to identify capital gains, removing the preferential treatment eliminates the tax incentive to convert other income into capital gains. This means that all the complicated tax rules required to limit such activity will vanish. Thus,

1 **We recommend that the $500,000 lifetime exemption for capital gains be phased out. We further recommend that capital gains be included in full in taxable income, with the only exceptions being the continued total exclusion of capital gains on the sale of principal residences and the continuation of the current treatment of family farms. At the same time, capital losses should be allowed full deductibility from other income.**

In advancing this recommendation, one cannot be indifferent to how the corporate sector is taxed on income that gives rise to capital gains. The question of the relative treatment of interest, dividends, and capital gains, and the integration of the corporate and personal taxes will be dealt with in subsequent recommendations.

Lowering the Top Tax Rates

The foregoing recommendation would remove the substantial advantage in the personal-income-tax system that currently favours persons in the higher-income brackets. It would also widen the tax base and open up the possibility of reducing the top marginal rates. Accordingly,

2 **We recommend that the top federal marginal tax rate on personal income be reduced from 34 per cent to 30 per cent and that the 30 per cent rate applicable to the next lower bracket be reduced to 28 per cent.**

Such a reduction would be in line with similar developments elsewhere. It would directly affect roughly 3 per cent of tax filers annually. Our estimates indicate that the rate reductions could be made without exhausting the revenue gains achieved by fully including capital gains within taxable income.

Registered Savings

The main instrument for moving to a lifetime-income tax is registered saving. Registered saving constitutes a convenient do-it-yourself income-averaging device that enables individuals to smooth out their lifetime tax payments and, as such, is justifiable on the grounds of fairness. The present dollar limits on contributions to registered saving plans (RSPs), therefore, have no justification. A rationale for limiting RSP contributions to a percentage of income does exist, however, from a budgetary point of view – if government cash requirements are regarded as important as government surpluses and deficits. In this respect, it may be noted that taxes deferred by contributions to registered savings plans are matched by an equal deferral of government revenue. Therefore, contributions to registered savings plans do not increase a government deficit but certainly reduce cash inflow and increase the current cash requirements of governments. Thus there is a trade-off between savings, growth, and tax equity, on the one hand, and government cash flow, on the other. With this in mind,

3 **We recommend the gradual removal of dollar limits on amounts contributed to registered savings. As circumstances permit, the contribution rate should be increased to a level in the range of 25 to 30 per cent of total taxable income, and it should be total income that qualifies for the contribution rather than earnings.**

A contribution rate of 30 per cent is compatible with the minimum tax, regardless of income level. A limit of 30 per cent would also cover most people's year-to-year fluctuations in personal income, as observed in taxation statistics. The purpose of expanding the definition of income that qualifies for contributions, from earnings to total income, is to permit do-it-yourself income averaging for some of the more variable sources, such as equity income.

Nonregistered Savings

Registered treatment is not appropriate for all savings. There must be sufficient scope for saving in nonregistered form, particularly if the assets are used for collateral on subsequent borrowings. Today, the bulk of personal financial wealth is in nonregistered savings.

All things considered, the present $1,000 deduction limit on interest and dividends seems very low, bearing in mind the average individual's need to save in nonregistered form for a down payment on a house, or for other reasons. It would be particularly so, if the income eligible for the deduction were to include capital gains and rental income.

With these considerations in mind,

4 **We recommend that the $1,000 interest and dividend deduction be increased to $2,000 and that taxable capital gains and net rental income be included in the deduction.**

Clearly, with such a limited deduction, there would still be a very substantial amount of nonregistered assets, yielding an income stream that would be subject to income tax annually. The interest paid on money borrowed to acquire these assets would continue to be deductible. It should continue to be the case, then, that such deductions of interest paid on borrowed money also serve to reduce the $2,000 deduction proposed in the recommendation.

Registered Borrowing

Not all taxpayers benefit from registered saving. The number of taxpayers assisted by the tax system can be expanded with the introduction of registered borrowing. Registered borrowing consists of an election by the taxpayer to treat the proceeds of a loan as taxable income, such election earning the taxpayer the right to deduct from future taxable income the interest and amortization payments on the registered loan. This being the reverse of registered saving, it would result in prepaid taxes and an increase in government cash flow. Thus there would be no reason to put dollar limits or percentage limits on registered borrowing. Examples of taxpayers who could benefit from this election include people temporarily leaving the labour force for retraining or women temporarily leaving the labour force to have children. As well as being useful for such taxpayers in general, for students it would put borrowing for investment in "human capital" on the same basis as borrowing for other forms of investment. Thus,

5 **We recommend that provision be made for borrowing on a registered basis.**

We expect that under the system we are proposing there would be a greatly expanded role for registered assets. There would remain, however, assets not suitable for registration and for which the individual capital-income deduction would not be large enough. Such assets should continue to be treated on an annual-income base, as they are under the current system.

Indexation

Over the not-too-distant past, high inflation rates created some of the greatest distortions in the tax system because of the lack of full indexation. The lack of full indexation has also meant that government tax revenues increase because of inflation, in addition to any visibly legislated increases.

The lack of any indexation would result in nominal, rather than real, values being taxed. Until very recently, however, the current personal income tax has been, more or less, fully indexed for labour income. The treatment of capital income, on the other hand, has been much more haphazard. Registered savings, by and large, have also been indexed automatically to the same extent as labour income. Nonregistered savings, in contrast, have been generally taxed on nominal, rather than real, returns.

Last year the federal government limited the indexing of the personal income tax to amounts in excess of a 3-per-cent increase in the cost of living. In our view, the government should, as a minimum, restore indexation at the full inflation rate. Indeed,

6 **We recommend that all relevant personal tax brackets, deductions, and exemptions be fully indexed.**

Under such indexing, labour income and all registered savings or investment would once again be fully indexed for inflation, and increased use of registered savings would mean a greater degree of indexing overall. In addition, the value of the deduction for returns from nonregistered savings would not be eroded by inflation. Those assets whose yields would continue to be taxed on an annual-income basis would, however, continue to be affected by inflation. For such assets we are not recommending any indexing. Should inflation once again become a major problem, however, the federal government might wish to consider the reintroduction of indexed security investment plans (ISIPs), but without accrual treatment of returns, for corporate equity.

Corporate Income Tax

We believe it is possible to achieve a much greater degree of tax neutrality by broadening the corporate-income-tax base and cutting statutory tax rates. The Department of Finance has already embarked upon such a course of action as a result of measures contained in the 1986 budget - notably, repeal of the 3-per-cent inventory allowance, phasing-out of the general investment tax credit (ITC), and the concurrent reduction in statutory corporate-tax rates of between 2 and 4 percentage points over the next three years. Such steps are designed to reduce the dispersion in marginal effective tax rates and thereby ensure a greater degree of tax neutrality with respect to investment decisions. Implementation of the following additional or alternative measures would narrow the variation in marginal effective tax rates even further. They involve:

- capital cost allowances that correspond more closely to actual capital costs;
- adjustment of the corporate tax system for inflation;
- lower and more-uniform statutory corporate-tax rates;
- closer integration of the corporate and personal tax systems; and
- greater loss offsetting for tax purposes.

Before discussing the above recommendations in greater detail, some comment is warranted concerning the federal government's decision to repeal the investment tax credit.

The Investment Tax Credit

It is not the investment tax credit *per se* that has caused so much variation in marginal effective tax rates; instead, it is the uneven manner in which it has been applied. The ITC rates vary by type of asset and by industry, as well as by region. Consequently, abolition of the ITC, as proposed by the federal Department of Finance in the 1986 budget, would considerably reduce the degree of dispersion in marginal effective tax rates. Accordingly, we support the federal government's decision to phase out the investment tax credit for all but a few special types of investments. We hasten to add, however, that should a stimulus to aggregate investment be considered desirable at some time in the future, an investment tax credit provided *at the same rate* for all types of capital, including inventories, might be appropriate.

Capital Cost Allowances

Accelerated capital cost allowances (CCAs) enable firms to write off certain investments for tax purposes long before the end of their economic lives. Machinery used in the manufacture and processing of goods (CCA Class 29), for example, can be written off in only three years, even though its economic life is estimated at over 18 years. In contrast, the tax lives of buildings correspond more closely to their economic lives. The current structure of CCAs is therefore a major source of variation in marginal effective tax rates among assets, firms, and industries. In order to reduce such discrepancies considerably and accomplish further base broadening.

7 We recommend that the present system of capital cost allowances, involving broad classes of assets, be retained but that the allowances correspond more closely to actual capital costs, taking into account physical wear and tear and obsolescence. We also recommend that CCAs be adjusted to take into account the current costs of replacing an asset.

We recognize, of course, that even if the current rate at which certain broad classes of assets are written off for tax purposes is clearly excessive, actual capital costs are extremely difficult to measure for all assets. Hence any major reduction in the degree to which CCAs are accelerated should be implemented only after close consultation with representatives of the tax-accounting profession and the business community.

Adjusting the Corporate Tax for Inflation

In order to mitigate the interaction of inflation with the tax system,

8 We recommend that the corporate tax system continue to make adjustments for inflation.

Ideally, full indexation of the corporate income tax would be accomplished by a) indexing CCAs to reflect actual replacement cost, b) restoring the recently abolished inventory allowance at a rate corresponding to inflation; and c) restricting interest deductions to real, rather than nominal, expenses. While the first two indexation provisions are administratively feasible, confining interest deductibility to real, rather than nominal, expenses would probably encounter difficulties. In particular, such a step would constitute a major divergence from the corporate tax systems of countries investing in Canada and could thus jeopardize the full crediting of Canadian corporate taxes under foreign tax systems. But indexation involves a package deal encompassing all three provisions, not just two out of three.

A more viable method of indexing the corporate income tax proposed by the Ontario Committee on Inflation Accounting would be to continue to permit nominal interest deductibility but to adjust CCAs and the inventory allowance for the degree of non-equity financing. The result would be that whereas an entirely equity-based company would receive CCAs reflecting true economic depreciation, with complete indexation as well as the full inventory allowance, a company that uses debt financing would have the indexation component of CCAs and the inventory allowance reduced by the current proportion of non-equity financing.

Unfortunately, indexation of the corporate tax along the lines suggested above would greatly increase the complexity of the tax system and is therefore perhaps not worth undertaking as long as the inflation rate remains relatively low. Under such circumstances,

9 We recommend that discretionary measures be implemented involving slightly accelerated CCAs and an inventory allowance, all taking into account the business sector's overall debt/equity position, as long as inflation remains below 5 per cent annually.

For example, since roughly 60 per cent of corporate investment is equity-financed, the appropriate rate for an inventory allowance would be 60 per cent of the annual inflation rate. If the latter were 5 per cent, then a 3-per-cent inventory allowance would be required.

While indexation of the tax system may not be viewed as a matter of much urgency with the inflation rate currently hovering around 4 per cent annually, there is no guarantee that further inflationary pressure will not arise in the near future. The current mess in which we find the corporate tax system is partly due to the liberalization of CCAs and the enhancement of the investment tax credit introduced during the 1970s and early 1980s in an effort to counteract the adverse impact of inflation on corporate cash flows. To avoid repeating past mistakes, indexation of the corporate tax system should be considered a desirable medium-term objective. It ought to be viewed as an insurance policy against the damaging ramifications of a renewed outbreak of inflation. Adjusting to inflation accounting for tax purposes is, of course, easier, the lower the rate of inflation. Thus now is the time to act on indexation, while inflation is relatively low. Therefore,

10 We recommend that the federal government introduce immediate indexation, or at least prepare a contingency indexation scheme that could be implemented should inflation exceed a threshold of 5 per cent for a prolonged period of time. In this regard, the indexation scheme proposed by the Ontario Committee on Inflation Accounting ought to be considered.

Part of the variance in marginal effective tax rates is due to the preferential statutory tax rates that apply to companies involved in manufacturing and processing, as well as to small businesses. Hence, in conjunction with measures to broaden the corporate-income-tax base, steps ought to be taken to ensure that statutory corporate-tax rates are more uniform.

This could be achieved by abolishing the manufacturing and processing deduction and reducing the basic federal tax rate so as to ensure that the manufacturing sector will be faced with statutory rates that are no higher than at present. Similarly, any drop in basic statutory corporate-tax rates could be accompanied by a corresponding reduction in the small-business deduction in order to ensure that the statutory corporate-tax rates applied to small businesses would be no less than the present rates. (Note that we are not suggesting that provincial statutory rates be brought into line with each other, since these tax rates tend to reflect the level of public services provided within each province.) Accordingly,

11 We recommend that statutory corporate-income-tax rates be lowered and rendered more uniform across industries and types of activities. More precisely, we recommend that the special rate for manufacturing and processing be abolished, and we suggest a standard tax rate of 33-1/3 per cent, 8-1/3 percentage points of which would be abated to the provinces. In the case of private Canadian-controlled companies, however, we recommend that the first $200,000 of active business income be taxed at the rate of 25 per cent, again allowing an abatement of 8-1/3 percentage points to the provinces.

The foregoing rates can be compared with those applicable to large and small businesses in 1986. As shown in the table, for large manufacturing and nonmanufacturing companies, the rates are 40 and 46 per cent, respectively, assuming that 10 percentage points of the tax rate are abated to the provinces. In the case of small manufacturing and nonmanufacturing firms, the statutory tax rates are 20 and 25 per cent, respectively, again allowing for 10 percentage points to be abated to the provinces.

Our suggested rates can also be compared with those which are expected to apply to large and small businesses in 1989, once the measures announced in the 1986 federal budget have been fully implemented. For large

Actual and Proposed Statutory Corporate-Income-Tax Rates for Canada (Federal and Provincial Combined)

		Rate proposed by:		
	1986 rate[1]	Department of Finance (1989)[1]	BCNI[2]	Economic Council (1987)[3]
		(Per cent)		
Large business	46	43	35	33.3
Small business	25	23	35	25.0
Large manufacturing business	40	36	35	33.3
Small manufacturing business	20	18	35	25.0

1 Includes an abatement to the provinces of 10 percentage points.
2 Includes an abatement to the provinces.
3 Includes an abatement to the provinces of $8^{1}/_{3}$ percentage points.
SOURCE Canada, Department of Finance, *Budget Papers* (Ottawa: Finance, February 1986), p. 28; and Business Council on National Issues, *Tax Policy Reform in Canada*, A Report of the Task Force on Taxation Policy (Ottawa: BCNI, October 1986).

manufacturing and nonmanufacturing companies, the rates will be 36 and 43 per cent, respectively, assuming that provinces account for 10 percentage points of the tax rate. The statutory tax rates will be 18 and 23 per cent, respectively, in the case of small manufacturing and nonmanufacturing firms.

Integrating Corporate and Personal Income Taxes

With regard to the overall taxation of income from corporate investment, the degree of integration with respect to corporate and personal income taxes achieved by the former 50-per-cent dividend tax credit was excessive (except in the case of large tax-paying corporations) and therefore unduly expensive. We therefore endorse the reduction of the dividend tax credit to 33-1/3 per cent - that is, 25 per cent of grossed-up dividends - while noting that it might well be adjusted in future to reflect any significant changes in average (federal plus provincial) corporate tax rates.

A dividend tax credit of 33-1/3 per cent, combined with the full taxation of capital gains upon realization as in recommendation 1 above, would also restore the balance in the taxation of dividends and capital gains achieved prior to the introduction of the lifetime capital-gains exemption in 1985.

Under the present corporate tax, the preferential treatment of interest compared with equity costs is mitigated by the fact that interest is subject to personal tax upon receipt by households. On the other hand, dividends are eligible for the dividend tax credit, while taxes on capital gains are postponed until the latter are realized and then levied at half the personal rate, or not at all. When earned inside an RRSP or by a pension fund, however, interest is nontaxable, and dividends are not eligible for credits. Thus dividends earned on RRSP and registered-pension-fund investments do not receive any relief for corporate income taxes paid. As a result, RRSP holders and pension funds tend to favour debt investment relative to equity investment. This bias against equity investment will be cause for even greater concern if the existing limits on contributions to RRSPs are relaxed still further, as proposed.

The dividend tax credit could, of course, be extended to cover income from RRSP (and pension) funds. This would result in equal tax treatment of interest and dividend income, and would thereby eliminate the discrimination against investments financed by new shares. But that would still not remove the bias against income from RRSP investments received in the form of capital gains, which discourages the financing of investments with retained earnings.

The latter situation could be avoided, however, if accumulated capital gains on the common shares of Canadian public corporations held in registered savings plans were deemed to be dividends and, as such, qualified for the dividend tax credit. Accordingly,

> 12 **We recommend the creation of a separate "capital component" within registered savings plans, consisting of both net capital gains and dividends received from listed common shares of taxable Canadian corporations. Upon withdrawal from a registered plan, the capital component would be grossed up by a factor of 1-1/3 for personal tax purposes, and this grossed-up amount would then be eligible for the dividend tax credit of 33-1/3 per cent.**

Extension of the dividend tax credit to registered savings along the foregoing lines would remove the existing tax-induced bias against the investment of registered savings in common shares.

Loss Offsetting

An additional shortcoming of the present corporate-tax system has been that a large proportion of firms cannot take full advantage of all the tax allowances for which they qualify. From 1977 to 1981, for example, almost half of all investment was undertaken by companies that were rarely able to use their capital cost allowances, investment tax credits, and other deductions; in 1981, more than half of all corporations had no tax liability whatsoever. Although unused tax losses can, of course, be carried forward (or backward), the period over which losses can be spread is limited. Moreover, the present value of these tax allowances is reduced by the fact that firms must forgo interest on losses carried forward.

In our view the most effective and acceptable approach to implementing loss offsetting for tax purposes would be to allow firms to carry losses forward indefinitely. Moreover, tax losses should be carried forward not simply at their nominal value, as at present, but marked up by an interest factor to allow for the fact that nontaxpaying firms have to wait to get the benefit of the tax allowances. Accordingly,

13 **We recommend the unlimited carry-forward of losses for tax purposes – with interest – subject to appropriate tax-avoidance rules.**

Such a provision would be especially beneficial to new, small, or undiversified businesses, or firms that reinvest a relatively large proportion of their income. Unlimited loss carry-forward would reduce the possibility of fraudulent claims for losses, since firms would not be able to claim losses until they had taxable income.

The foregoing recommendations concerning the corporate-income-tax system could be implemented within three or four years. For instance, the present general investment tax credits of 7 and 10 per cent are to be reduced by the federal government to 5 and 7 per cent, respectively, in 1987; and both are scheduled to be reduced to 3 per cent in 1988 and repealed entirely in 1989. Our recommended capital cost allowances, as well as the proposed cuts in statutory corporate-tax rates, could be phased in over a similar period of time. By contrast, the recommended extension of the dividend tax credit to registered savings plans and the unlimited carry-forward (with interest) of losses for tax purposes could be put into effect immediately.

Sales Taxes

A broadly based, uniform value-added tax (VAT) that would replace the manufacturers' sales tax could remove both the intertemporal and the intersectoral misallocations of capital, characteristic of the existing tax. The proposed business transfer tax (BTT) – a VAT under another name – promises to place federal indirect taxation on a much more efficient footing, provided that it is imposed on a broad base and at a single rate.

14 **We support replacement of the existing federal sales tax with a new one that effectively exempts business inputs, such as a value-added, or business transfer, tax.**

The result would be improved if provincial sales taxes were also removed from business inputs and capital goods. Therefore, to reap the full efficiency gain from sales tax reform,

15 **We recommend the removal of capital goods from the base of provincial sales taxes as well.**

We recognize that considerable effort is already being made to avoid imposing sales taxes on business inputs. But it is often difficult to tell at the point of sale whether a good is for business or personal use; thus some tax on capital goods is almost inevitable under a traditional sales tax. Should one or more provinces decide to apply the same VAT or BTT methods employed federally to remove inputs from the tax base completely, the administration and compliance costs of these taxes could be reduced by combining the efforts of both levels of government. Therefore,

16 **We recommend that both levels of government discuss simultaneous reform of their indirect tax systems.**

It remains to be seen how comprehensive the BTT will be and how it will apply to various items of consumption. Difficulties can be expected in the cases of housing services, financial services, hospital and educational services, and consumption by nonprofit institutions and government. Some of these might be exempted; others, zero-rated. Simply exempting some institutions would deprive them of a mechanism by which to obtain relief from taxes paid on their inputs. Zero-rating brings the supplier into the circle of licensed vendors and confers on him the right to deduct inputs.

The foreign experience with value-added taxes indicates that their administrative and compliance problems rise dramatically when they are imposed at nonuniform rates. The same can be said of the business transfer tax. The latter has, however, the additional disadvantage that if it is imposed at different rates at various points in the production and distribution chain, it becomes difficult to remove fully the burden of these taxes from exports or any other zero-rated goods and services. Therefore,

17 We recommend that any new tax, such as a business transfer tax, be at uniform rates, with as few exemptions of consumption goods and services as possible, and that it be visible at the point of sale.

We are also concerned about the hidden nature of this new tax and would like to see the tax either invoiced separately or at least posted at the cash register. Invoicing or posting would, however, provide misleading information unless a uniform rate were applied at all stages of production and distribution.

Only about a third of domestic consumer expenditure is now burdened with the MST, at a typical rate of 12 per cent. Broadening the base of the federal sales tax would make it possible to reduce this tax rate, increase federal revenues, or both.

While recognizing that a new BTT would have to raise at least as much revenue as the old MST, the revenue from this source should not be increased without careful consideration. Increasing BTT revenue tilts the tax system away from a lifetime-income tax toward a consumption tax and raises questions of fairness. Concerns about interregional equity arise even without increasing the revenue from this source.

A BTT would raise the price that people pay for consumption goods. For low-income persons who cannot save, there would be a clear-cut increase in the cost of living. While some low-income persons are shielded from such increases to the extent that they receive indexed transfer payments, others are not well shielded. For low-income persons, therefore, indexed transfers should be supplemented by sales tax credits, which should not be implicitly taxed back by other welfare programs.

18 We recommend that if a uniform valued-added tax or business transfer tax is adopted, it be accompanied by an appropriate personal-income-tax credit available to taxpayers with incomes below a stipulated threshold.

While the BTT is unquestionably a substantial improvement over the MST, the Council is not convinced that the BTT is a suitable tax base for generating substantial increases in federal tax revenue, now or over time. The BTT has a number of shortcomings in terms of equity and of regional and international implications. First, the tax credit recommended above would offset the higher cost of living associated with the BTT only for those families below a certain threshold. We have no means of easing the burden on families or individuals who are above that threshold. Second, interregional redistributions could result from the substitution of BTT revenue for income-tax revenue, and from the extension of the federal sales tax to transport services. Transport services are currently not subject to federal sales tax. Their inclusion in the base of a BTT would affect the well-being and development of regions and industries where transport costs are a major component of consumer prices. Similarly, increasing the flat rate of a BTT in order to reduce personal or corporate income taxes would help high-income, but hurt low-income, regions. Third, this last change would lower the taxes on non-resident investment in Canada, putting a larger tax burden on residents.

Some members would support an increase in BTT revenues well in excess of those obtained through the current manufacturers' sales tax in order to finance cuts in personal tax rates. Others would not, for the reasons noted above. Moreover, we have provided a means of financing reductions in marginal tax rates through the recommendations that call for full taxation of capital gains and accompanying changes to the corporate-income-tax system.

Resource Taxes

Deductions of exploration and development costs by both the mining and oil industries, the remaining earned depletion allowances, and the processing allowances made for mining inudstries are the principal factors responsible for the negative marginal effective corporate-tax rates enjoyed by those two industries in the past. The exploration process can be compared to industrial research and development. The deduction of exploration expenses from taxable income can thus be considered very similar to the deduction of research and development by other industries. Other special tax incentives, such as depletion allowances, can have some disadvantages; either they get reflected in higher bonus bids, and thus fail to remain with taxpayers, or they interfere with provincial resource management.

The analysis of corporate-income taxation uncovered a large variation in tax rates across industries and firms. In the mining sector, some of this variation is caused by provincial processing allowances. To increase the neutrality of the tax system with respect to resource firms and resource development,

19 We recommend the gradual withdrawal of the remaining (federal) earned depletion allowances and (provincial) processing allowances.

This recommendation affects mostly the mining industries and would be offset in part by a general reduction in federal tax rates. Reductions in provincial mining taxes to offset the withdrawal of processing allowances would also be appropriate. Given the current state of markets for the products of mines, earned depletion and processing allowances could be phased out gradually. Unused depletion allowances should be grandfathered and granted the benefit of the recommended interest on losses carried forward.

The federal resource allowance, in lieu of deductions of royalties and mining taxes paid, is capable of distorting royalty systems. It increases the effective cost to resource companies of royalties and other resource rents that exceed the federal allowance, and it reduces the after-tax cost of those rents which fall short of the allowance. In this way, the federal allowance creates distortions among oil, gas, and mining industries. The federal allowance, by not following this pattern of variation, modifies the differences in after-tax royalties among wells. Thus it is impossible to say that the royalty system achieves an efficient allocation of costs and risks among provincial landowners and private-sector resource companies. The best solution to this problem is a return to the system that was in force from 1917 to 1973, whereby provincial royalties were fully deductible from taxable income (mining taxes became deductible in 1946).

This problem was addressed before by Council, in a publication entitled *Connections*; yet it remains unresolved. Pending a solution, considerable improvement could be made by disallowing, for federal-income-tax purposes, a percentage of provincial royalties, mining taxes, and other resource payments in excess of the federal resource allowance, while allowing the deduction of lesser royalties and mining taxes. Provision could be made for this percentage to vary with economic circumstances.

Property Tax

Our research found that municipal property taxes have an important impact on the effective tax rates on new investments in Canada. In fact, property taxes on businesses are a more important component of such effective tax rates on new investment than either corporate taxes or sales taxes on capital inputs. They also vary quite sustantially, depending on each municipality's priorities, assessment practices, and tax rates. We also found that, in general, businesses pay a greater proportion of municipal property taxes than do individual residents, effectively cross-subsidizing services to residential property and the community at large. Many economists and independent observers find this situation to be objectionable.

On the other hand, discriminatory taxing of businesses is a long-standing practice. The whole exercise is rooted in the belief that business assessment produces a profit that can be used to keep the residential rates down. Any major shift in the system toward easing the burden for business could involve a complete realignment of the property tax system, the division of revenue and expenditures between provincial and local governments, and the intergovernmental transfer system.

20 We recommend that where they now do so, provincial governments continue to impose provincial standards for property assessments and that all provinces, in collaboration with their municipalities, review the municipal financial responsibilities borne by businesses and residents to ensure that there is a reasonable sharing of taxes and benefits.

We are reluctant to go further than this, since we have not engaged in the kind of comprehensive study of municipal fiscal management that would permit more specific advice.

Appendix B

Studies Prepared for the Economic Council on the Taxation of Savings and Investment

Androkovich, R., M. J. Daly, and F. Naqib. "The impact of RRSPs on capital accumulation with progressive personal taxes." Discussion Paper 309, Economic Council of Canada. Ottawa, June 1986.

Bartholdy, J., J. Mintz, and G. Fisher. "Taxation and the financial policy of firms: Theory and empirical applications to Canada." Economic Council of Canada, Ottawa (forthcoming).

Bird, R. M., and D.J.S. Brean. "The interjurisdictional allocation of income and the unitary taxation debate." Discussion Paper 304, Economic Council of Canada. Ottawa, May 1986.

Boadway, R., N. Bruce, and C. M. Beach. "Taxation and savings in Canada." Technical Paper, Economic Council of Canada. Ottawa (forthcoming).

Burgess, D. F. "On the importance of an endogenous domestic savings response for capital income taxation in open economies." Discussion Paper 291, Economic Council of Canada. Ottawa, January 1986.

______. "On the relevance of export demand conditions for capital income taxation in open economies." Discussion Paper 287, Economic Council of Canada. Ottawa, September 1985.

Cloutier, E. "Taxes and the labour supply of married women in Canada." Discussion Paper 305, Economic Council of Canada. Ottawa, May 1986.

Dahlby, B., and A. Macnaughton. "Taxation of life insurance in Canada." Discussion Paper 313, Economic Council of Canada. Ottawa, September 1986.

Daly, M. J. "Some pitfalls on the road to a neutral tax system," in *Economics Letters* (forthcoming).

______, and J. Jung. "The taxation of corporate investment income in Canada: An analysis of marginal effective tax rates," in *Canadian Journal of Economics* (forthcoming).

Daly, M. J., J. Jung, and T. Schweitzer. "Towards a neutral capital income tax system." Economic Council of Canada, Ottawa (forthcoming); also published in *Canadian Tax Journal* 34, no. 6 (November-December 1986).

Daly, M. J., J. Jung, P. Mercier, and T. Schweitzer. "The taxation of capital income in Canada: A comparison with Sweden, the U.K., the U.S.A., and West Germany." Discussion Paper 289, Economic Council of Canada. Ottawa, September 1985; also forthcoming in the *Canadian Tax Journal* (1987).

______. "A comparison of effective marginal tax rates in Canadian manufacturing." Discussion Paper 293, Economic Council of Canada. Ottawa, January 1986; also published in *Canadian Tax Journal* 33, no. 6 (November-December 1985):1154-92.

______. "The importance of arbitrage and inflation assumptions for effective marginal tax rate calculations," Economic Council of Canada, Ottawa (forthcoming); an abridged version of this study has been published in *Economics Letters* 21 (1986):189-93.

Daly, M. J., and F. Naqib. "Designing a nondistortionary personal tax system for Canada." Discussion Paper 267, Economic Council of Canada. Ottawa, November 1984; also published in *Economics Letters* 18 (1985):209-12.

Daly, M. J., F. Naqib, and G. J. Lastman. "The role of tax-deductible saving in the transition from a progressive income tax to a progressive consumption tax." Discussion Paper 308, Economic Council of Canada. Ottawa, June 1986.

Damus, S. "Micro-computer simulation of a general equilibrium model of Canada." Discussion Paper 311, Economic Council of Canada. Ottawa, August 1986.

______, P. Hobson, and W. Thirsk. "The welfare effects of property taxation in an open economy." Economic Council of Canada, Ottawa (forthcoming).

Davies, J., and F. St-Hilaire. "Reforming capital income taxation in Canada: Efficiency and distributional effects of alternative options." Research Monograph, Economic Council of Canada. Ottawa (forthcoming).

Domingue, R.-P. Évaluation des rentes imputées appartenant aux propriétaires occupants et conséquences du traitement fiscal." Economic Council of Canada, Ottawa (forthcoming).

Ethier, M., and D. Simard. "Marginal effective tax rates in the Alberta oil industry." Discussion Paper 314, Economic Council of Canada. Ottawa, January 1987.

Gagnon, J.-M., J.-M. Suret, and D. Morissette. "L'inférence des taux marginaux d'impôt à partir de cours boursiers." Economic Council of Canada, Ottawa (forthcoming).

______. "Fiscalité et l'endettement des entreprises canadiennes." Economic Council of Canada, Ottawa (forthcoming).

Gauthier, D. "Savings and taxes in a life cycle growth model with age-earnings profile." Discussion Paper 288, Economic Council of Canada. Ottawa, September 1985.

______. "Taxation and life cycle savings behaviour in a small open economy." Discussion Paper 306, Economic Council of Canada. Ottawa, June 1986.

Grady, P. "Indexation and the taxation of business and investment income." Discussion Paper 283, Economic Council of Canada, Ottawa, June 1985.

Hartle, D. G. "Political economy of tax reform: Six case studies." Discussion Paper 290, Economic Council of Canada. Ottawa, January 1986.

Hettich, W., and S. Winer. "Blueprints and pathways: The shifting foundations of tax reform." Discussion Paper 268, Economic Council of Canada. Ottawa, November 1984; also published in *National Tax Journal* 38 (December 1985).

Hobson, P. "The property tax: A survey." Economic Council of Canada, Ottawa (forthcoming).

Jenkins, G. P. "The impact of inflation on corporate taxes and the cash flows of business." Discussion Paper 286, Economic Council of Canada. Ottawa, September 1985; also published in *Canadian Tax Journal* 33, no. 4 (July-August 1985):759-85.

______. "The role and economic implication of the Canadian dividend tax credit." Discussion Paper 307, Economic Council of Canada. Ottawa, June 1986.

______. "Taxation, inflation and the performance of capital in Canada, 1965-1981." Technical Paper, Economic Council of Canada. Ottawa (forthcoming).

______. "Cost effectiveness of after-tax financing: Flow-through shares in Canada." Economic Council of Canada, Ottawa (forthcoming).

Mercier, P. "Taux marginaux d'impôt effectifs de l'habitation à propriétaire occupant au Canada." Economic Council of Canada, Ottawa (forthcoming).

______. "Taux marginaux d'impôt effectifs du logement locatif incluant l'impôt sur la récupération." Economic Council of Canada, Ottawa (forthcoming).

Mintz, J. "Taxation and risk-taking." Research Monograph, Economic Council of Canada. Ottawa (forthcoming).

Thirsk, W.R. "Indirect federal taxes, the cost of capital and the issues of tax incidence," Discussion Paper 294, Economic Council of Canada. Ottawa, January 1986.

Notes

CHAPTER 1

1 Interview by Gordon Pitts, *Financial Post*, August 2, 1986, p. 4. See also press release by the Honourable Michael Wilson, Minister of Finance, Ottawa, July 18, 1986.

2 Canada, Royal Commission on the Economic Union and Development Prospects for Canada (the Macdonald Commission), *Report*, vol. 3 (Ottawa: Supply and Services Canada, 1985), p. 428.

3 Some excise taxes - such as those on alcohol and tobacco - are used to discourage consumption of products considered to be socially harmful. Other excise taxes - such as provincial taxes on gasoline - are levied as "benefit" taxes to pay for the use of public roads. Use of these "selective indirect taxes" would be justified regardless of other government revenue needs. Our interest is in broad-based revenue measures other than those special-purpose taxes.

4 James B. Davies, "On the size distribution of wealth in Canada," *Review of Income and Wealth* 25, no. 3 (September 1979):242.

5 See Canada, Royal Commission on Taxation (the Carter Commission), *Report* (Ottawa: Queen's Printer, 1966), vol. 1, p. 11.

6 Dale W. Jorgenson and Alvaro Pachon, "The accumulation of human and non-human capital," in *The Determinants of National Savings and Wealth*, ed. Franco Modigliani and Richard Hemmings, Proceedings of a Conference held by the International Economic Association at Bergamo, Italy (New York: St. Martin's Press, 1983), p. 316, Table 15.2.

7 Canada, *Rapport du Comité consultatif sur l'inflation et l'imposition du revenu personnel de placements, 1982* (Ottawa: Supply and Services Canada, 1982), p. 10.

8 Adam Smith, *The Wealth of Nations*, Book V, Part II.

9 Richard A. Musgrave and Peggy B. Musgrave, *Public Finance in Theory and Practice*, 4th ed. (New York: McGraw-Hill, 1984), p. 225.

10 M. King and D. Fullerton, *The Taxation of Income from Capital: A Comparative Study of the United States, the United Kingdom, Sweden, and West Germany* (Chicago: University of Chicago Press, 1984), Appendix B.

11 Mervyn A. King, "The taxation of income from capital," *NBER Reporter* (Fall 1983):10.

12 The Nielsen Committee found several examples of tax incentives that it could only describe as "whimsical." See Canada, Task Force on Program Review, *Economic Growth: Services and Subsidies to Business* (Ottawa: Supply and Services Canada, 1986), p. 26.

13 "High rates are to tax incentives what a stiff breeze is to a sailboat - that which provides both power and maneuverability," Richard L. Schmalbeck, "Foreword," *Law and Contemporary Problems* 48, no. 4 (Autumn 1985):4.

14 As quoted by Jonathan R. Kesselman, "Role of the tax mix in tax reform," in *Changing the Tax Mix*, ed. John G. Head (Sydney: Australian Tax Research Foundation, 1986), p. 68.

15 A. C. Harberger, "Taxation, resource allocation and welfare," in *The Role of Direct and Indirect Taxes in the Federal Revenue System*, ed. J. Due (Princeton: Princeton University Press for the NBER, 1964), pp. 25-131.

16 France St-Hilaire and John Whalley, "Reforming taxes: Some problems of implementation," in *Approaches to Economic Well-being*, coordinated by David Laidler (Toronto: University of Toronto Press, 1985), p. 203.

17 Charles L. Ballard, John B. Shoven, and John Whalley, "General equilibrium computations of the marginal welfare costs of taxes in the United States," *American Economic Review* 75, no. 1 (March 1985):128.

18 Dan Usher, "The private cost of public funds: Variations on themes by Browning, Atkinson, and Stern," Discussion Paper 481, Queen's University, Kingston, Ontario, June 1982.

19

> When faced with these hard choices we have consistently given the greatest weight to the [horizontal] equity objective. . . . We are convinced that scrupulous fairness in taxation must override all other objectives where there is a conflict among objectives.

Royal Commission on Taxation, *Report*, vol. 1, p. 4.

20 Kesselman, "Role of the tax mix," p. 71.

21 Henry J. Aaron and Harvey Galper, *Assessing Tax Reform* (Washington: The Brookings Institution, 1985), p. 7.

22 See Douglas G. Hartle, "Political economy of tax reform: Six case studies, Economic Council of Canada, Discussion Paper 290, Ottawa, 1985, Chapter 7.

23 *Il apparaît que dans la quasi-totalité des pays, la fiscalité dans son ensemble n'a pratiquement aucun effet sur la répartition du revenu. . . . La raison en est que la progressivité des impôts sur le revenu est compensée par des impôts régressifs, notamment les cotisations patronales de sécurité sociale et les impôts indirects considérés globalement.* Revue économique de l'OCDE. *Le rôle du secteur public : Causes et conséquences de l'élargissement du secteur public*, N° 4, printemps 1985, p. 245.

24 See James B. Davies, "Manufacturers' sales tax, value-added tax, and effective tax incidence," *Report of Proceedings of the Thirty-Seventh Tax Conference*, convened by the Canadian Tax Foundation in Quebec City, November 18-20, 1985 (Toronto: CTF, 1985), p. 15:7.

25 Jacob Mincer, *Schooling, Experience and Earnings* (New York: Columbia University Press, 1974), p. 119.

26 For instance, Browning argues that savings do not escape the burden of future sales taxes. He finds that sales taxes paid, plus the discounted value of sales taxes paid when savings are eventually dissaved, are proportional to disposable income. He also points out that if transfer payments are indexed, the burden of sales taxes is borne by factor incomes. If one makes the latter assumption, the burden of sales taxes becomes progressive in incidence. See Edgar K. Browning, "The burden of taxation," *Journal of Political Economy* 86, no. 4 (August 1978):649-71. For Canadian applications of Browning's arguments, see Davies, "Effective tax incidence," pp. 15:7 to 15:9; and James B. Davies, France St-Hilaire, and John Whalley, "Some calculations of lifetime tax incidence," *American Economic Review* (September 1984):633-49.

27 John Whalley, "Regression or progression: The taxing question of incidence analysis," *Canadian Journal of Economics* 17, no. 4, (November 1984):654.

28 Davies, St-Hilaire, and Whalley, "Lifetime tax incidence," p. 643.

29 See the views of Harberger and Okun, as cited in Edgar K. Browning and William R. Johnson, "The trade-off between equality and efficiency," *Journal of Political Economy* 92, no. 2 (April 1984):199-201.

30 Browning and Johnson, "The trade-off between equality and efficiency," p. 199.

31 See Joel Slemrod, "Do we know how progressive the income tax system should be?" *National Tax Journal* 36 (September 1983):361-69.

32 Alan J. Auerbach, Laurence T. Kotlikoff, and Jonathan Skinner, "The efficiency gains from dynamic tax reform," *International Economic Review* 24, no. 1 (February 1983):98.

33 In addition,

> the United Kingdom lowered the maximum rate from 83 to 60 per cent in 1979, while in France and Ireland the highest rate has been reduced from 65 to 58 per cent. Australia succeeded in lowering its top rate on personal income from 60 to 49 per cent, New Zealand's was reduced from 66 to 48 per cent. The 1981 Canadian reform reduced upper bracket rates (at the federal level) from 43 per cent to 34 per cent. Turkey has lowered its top rate from 65 to 50 per cent from 1987. The proposed Japanese reform would lower the highest tax rate (including local tax) from nearly 85 per cent to about 62 per cent, but is notable in that it aims to reduce marginal rates across most of the income range by roughly the same amount.

Organisation for Economic Co-operation and Development, *Tax Reform in OECD Countries: Economic Rationale and Consequences* (Paris: OECD, 1987), pp. 28-29.

34 Revenue Canada, letter from F. H. Hostetter, Director, Statistical Services Division, Ottawa, November 26, 1986.

35 Task Force on Program Review, *Economic Growth*, p. 13.

36 Task Force on Program Review, *Economic Growth*, p. 13.

37 See, for instance, the views of J. Slemrod, A. Blinder, R. Musgrave, and J. Pechman in *Economic Consequences of Tax Simplification* (Boston: Federal Reserve Bank of Boston, 1985), pp. 72, 95, 263, and 286.

38 See R. E. Hall and A. Rabushka, *Low Tax, Simple Tax, Flat Tax* (New York: McGraw-Hill, 1983).

39 Charles E. McLure, Jr., "Rationalizing the corporate income tax: The recent U.S. proposals," *Report of Proceedings of the Thirty-Seventh Tax Conference*, pp. 6:1 to 6:21.

40 See G. Brennan and J. M. Buchanan, *The Power to Tax: Analytical Foundations of a Fiscal Constitution* (Cambridge, Mass.: Cambridge University Press, 1980).

41 U.S. Treasury, *Tax Reform for Fairness, Simplicity and Economic Growth*, vol. 1 (Washington: Government Printing Office, 1984), p. 221.

42 Walter Hettich and Stanley Winer, "Tax reform in an economic model of political choice," a paper prepared for the TRED Conference on the Political Economy of Tax Change, Carleton University, Ottawa, August 1984.

43 R. D. Brown, "International tax planning," *Canadian Tax Journal* 32, no. 3 (May-June 1984):564.

44 See, for instance, Finn E. Kydland and Edward C. Prescott, "Rules rather than discretion: The inconsistency of optimal plans," *Journal of Political Economy* 85 (1977):473-91.

45 The classic exposition of the principles of an income tax is usually regarded as being that of Henry C. Simons in his book *Personal Income Taxation* (Chicago: University of Chicago Press, 1938).

46 Royal Commission on Taxation, *Report*, 6 vols.

47 The classic exposition of consumption taxation is usually regarded as that of Nicolas Kaldor in his book *An Expenditure Tax* (London: Allen and Unwin, 1955). Among the leading economists who have supported the principle of a consumption tax are J. S. Mill, Alfred Marshall, A. C. Pigou, and Irving Fisher.

48 U.S. Treasury, *Tax Reform for Fairness, Simplicity and Economic Growth*, 3 vols.

49 Great Britain, Institute for Fiscal Studies, *The Structure and Reform of Direct Taxation*, Report of a Committee chaired by Professor J. E. Meade (London: Allen and Unwin, 1978).

50 Recently reprinted as David F. Bradford et al., *Blueprints for Basic Tax Reform* (Arlington, Va.: Tax Analysts, 1984).

51 For instance, according to John Stuart Mill,

> unless, therefore, savings are exempted from the income tax, the contributors are twice taxed on what they save, and only once on what they spend.

According to Irving Fisher, in taxing income

> . . . a tax on the savings is added to a tax on the fruits of savings "so that" essentially the same thing is taxed twice.

Cited in Richard A. Musgrave, "The nature of horizontal equity and the principle of broad-based taxation: A friendly critique," in *Taxation Issues of the 1980's*, ed.

John G. Head (Melbourne: Australian Tax Research Foundation, 1983), pp. 22-23.

52 See Aaron and Galper, *Assessing Tax Reform*, p. 29; Musgrave, "A friendly critique"; and Musgrave, "ET, OT, and SBT," in *Journal of Public Economics* 6 (1976):3-16.

53 Royal Commission on Taxation, *Report*, vol. 1, Introduction, p. 7.

54 Other important differences are that a consumption tax would tax inheritances when spent, and "pure" profits from business, whereas an earnings tax would not.

55 For instance, clothing is exempted totally from the federal manufacturers' sales tax and either totally or partially from provincial retail sales taxes. As Davies indicates, however, family expenditures on clothing in 1982 rose from 4.7 per cent in the lowest annual-income decile to 8.8 per cent in the highest annual-income decile. See Davies, "Effective tax incidence," p. 15:4.

56

> Rigid adherence to our equity principles would call for the complete abolition of all sales taxes. . . . We do not advocate such a course, in part because we think that virtually the same result could be achieved in a way that would be less disruptive.

The Commission would have kept sales taxes at their existing levels but given income tax credits to offset their effects. See Royal Commission on Taxation, *Report*, vol. 1, p. 8.

CHAPTER 2

1 B. Hamilton and J. Whalley, "The treatment of housing in a dynamic sequenced general equilibrium model," *Journal of Public Economics* 27, no. 2 (July 1985):174.

2 For a discussion of nonactive business income, which is of major importance to financial intermediaries, see Jack Mintz, "The effect of corporate and personal income taxation on risky investments in Canada," a paper prepared for the Economic Council of Canada, 1986, pp. 20-22.

3 Canada, Department of Finance, "Theory and empirical methodology underlying the measure of marginal tax rates for the discussion paper: *The Corporate Income Tax System: A Direction for Change*," Ottawa, 1985, Tables B.2 and B.6, mimeo.

4 The Honourable John H. Turner, *The Budget Speech*, February 19, 1973, p. 2.

5 *Services and Subsidies to Business: A Study Team Report to the Task Force on Program Review* (Ottawa: Supply and Services Canada, 1986), p. 83.

6 Canada, Department of Finance, *Budget . . . in brief*, June 23, 1975, p. 8.

7 Canada, Department of Finance, *The Corporate Income Tax System: A Direction for Change* (Ottawa: Finance, May 1985), p. 18.

8 For a discussion of these provisions, see Mintz, "Effect of taxation on risky investments, pp. 15-19.

9 Glenn P. Jenkins, "The role and economic implications of the Canadian dividend tax credit," Economic Council of Canada, Discussion Paper 307, Ottawa, 1986, Table 4.

10 Revenue Canada, *Taxation Statistics*, 1986 edition, Table 2A; and Statistics Canada, *National Income and Expenditure Accounts*, Fourth Quarter 1986, Table 6.

11 The discussion in this section is based on B. Dahlby and A. Macnaughton, "Taxation of life insurance in Canada," Economic Council of Canada, Discussion Paper 313, Ottawa, 1986.

12 Dahlby and Macnaughton, "Taxation of life insurance," p. 40.

13 Dahlby and Macnaughton, "Taxation of life insurance," p. 76.

14 For the exemption rules see Dahlby and Macnaughton, "Taxation of life insurance," p. 17.

15

> ". . . focusing on the 163,120 high-income filers in 1979 "those having adjusted gross incomes over $50,000", 3,860 were non-taxable in that year. However, 1979 was the only year in which the vast majority of these 3,860 filers managed both to pay no tax and to have high incomes. Only 100 filers attained this combined status in four or more years. None managed to sustain it for more than six years."

Canada, Department of Finance, *A Minimum Tax for Canada*, Budget Papers (Ottawa: Finance, May 1985), p. 10.

16 Statistics Canada, unpublished data from the Input-Output Division.

17 "Real property" includes machinery, equipment, and fixtures affixed to a building in all provinces except New Brunswick, Quebec, and Saskatchewan. In Quebec, however, municipalities may exclude machinery at their discretion. In Prince Edward Island, New Brunswick, and Quebec, only machinery or equipment that provides a service to the building is part of the tax base. Machinery is excluded from the tax base in Saskatchewan unless it is used in mines, gravel pits, or oil or gas wells.

18 An exception is St. John's, Newfoundland, which uses rental value.

19 St. John's and Cornerbrook, Newfoundland, and Winnipeg, Manitoba, continue to perform their own property assessments. Municipalities in Alberta and Quebec perform assessments but follow provincial guidelines.

20 In British Columbia, it is paid by the owner.

21 This section is mainly based on Price Waterhouse, *Canadian Mining Taxation* (Toronto: Price Waterhouse INFO BANK, 1983).

CHAPTER 3

1 See J. Harvey Perry, *Taxation in Canada* (Toronto: Canadian Tax Foundation, 1984), p. 4.

2 This is only one of many possible definitions of "tax neutrality." Neutrality in the strictest sense requires that neither the relative prices of goods and services nor the allocation of resources should depend on tax rates or other provisions of the tax system. Unfortunately, no tax is ever likely to conform to such a strict standard of neu-

trality. Hence policymakers have tended to rely instead on less stringent definitions of neutrality. The definition of a neutral tax system as one that applies uniform marginal effective tax rates to all investments is currently the most popular.

3 This must hold a) for all three types of finance (debt, new-share issues, and retained earnings) and b) for all shareholders, which implies that the tax system must be neutral for all possible values of the personal income tax rate. See Mervyn King, *Public Policy and the Corporation* (London: Chapman and Hall, 1977).

4 For other reasons why the marginal tax rate might differ from the observed average tax rate, see Don Fullerton, "Which effective tax rate?" *National Tax Journal* 37 (March 1984):23.

5 The total-tax rate is defined as $t = (p - s)/p$, where p is the pre-tax rate of return on investment and s is the post-tax rate of return received by the investor. The total-tax rate can be separated into two components: t_c, the corporate tax rate (inclusive or exclusive of property and sales taxes), and t_p, the personal tax rate. They are defined, respectively, as $t_c = (p - x)/p$ and $t_p = (x - s)/x$, where x is the real cost of funds to the corporation.

6 This corresponds to the "fixed-p" calculations found in Mervyn King and Don Fullerton, eds., *The Taxation of Income from Capital* (Chicago: University of Chicago Press, 1984), p. 11. It is also equal to the social discount rate recommended for use in Canadian benefit/cost analysis; see *Benefit-Cost Analysis Guide* (Ottawa: Information Canada for Treasury Board Secretariat, 1976), p. 26.

7 Needless to say, in reality one would not expect to observe the same before-tax rate of return on all investment projects. Instead, one would expect differences in tax rates to stimulate investment in lightly taxed projects and to depress investment in heavily taxed ones, with an equilibrium being reached when no further opportunities exist for profitable tax arbitrage. Unfortunately, there is no agreement among economists about what type of tax arbitrage or market response should be assumed in computing effective tax rates. That is why we adopt the "fixed-p" approach, which is independent of any assumption concerning market response. In any event, our research shows that although the *magnitude* of the tax rates can vary with the specific type of market response assumed, the *pattern* of effective marginal tax rates is similar regardless of the assumption made. See Michael Daly and Jack Jung, "The taxation of corporate investment in Canada: An analysis of marginal effective tax rates," *Canadian Journal of Economics* 20 no. 3 (August 1987): 555-587.

8 See M. Feldstein, and C. Horioka, "Domestic saving and international capital flows," *The Economic Journal* 90 (June 1980):314-29; Martin Feldstein, "Domestic saving and international capital movements in the long run and short run," *European Economic Review* 21 (March-April 1983):129-51; and L. Summers, "Tax policy and international competitiveness," National Bureau of Economic Research, Working Paper 2007, Cambridge, Mass., August 1986.

9 In calculating marginal effective tax rates, we assume that the asset structures and financial structures of firms are independent of each other. Investments in buildings are, however, perhaps more likely to be debt-financed than those in machinery. Buildings are more easily used as collateral for loans, since for most types of buildings there is a dense secondary market to which a creditor can go should it become necessary to liquidate the collateral. Moreover, the market value of a building is normally much more predictable than the values of other assets. A firm should therefore be able to obtain a much larger loan on a building than on many other assets. Consequently, the fact that the capital cost allowances granted to buildings are less generous than those granted to machinery may be offset in part by the fact that firms can use debt to finance investment in buildings.

This consideration suggests that the differences between the effective tax rates on buildings and those on equipment may be less than indicated by our estimates. If we compare two investment projects by households in the manufacturing sector - the first in machinery, financed with retained earnings; and the second in buildings, financed with debt - we find that the marginal effective total-tax rates are 29.5 per cent in the former case and 37.5 per cent in the latter. Hence machinery still enjoys a clear tax advantage over buildings, albeit less than that indicated in our marginal-effective-tax-rate calculations.

10 Our calculations assume that a household investing in corporate bonds faces a marginal personal tax rate of 32 per cent, whereas a typical shareholder faces a rate of 42 per cent. The rate for shareholders is higher because dividends are concentrated more heavily than interest income among persons in high-income brackets. Hence the variation in effective tax rates is caused in part by the fact that marginal personal tax rates rise with income. It follows that further disaggregation of households by income groups would lead to more variation in effective tax rates.

11 About 30 per cent of combined federal and provincial sales tax revenue derives from intermediate inputs, some of which are used in the production of machinery, buildings, and inventories. (See Chun-Yan Kuo, Thomas C. McGirr, and Satya Poddar, "On measuring the effective federal and provincial sales tax rates in Canada," an unpublished document by the Tax Policy and Legislative Branch, Department of Finance, Ottawa, October 1985.) But several provinces (including Ontario and Quebec) exempt production machinery from provincial sales tax while taxing most building materials. The federal government, too, taxes building materials but allows various exemptions for production equipment. Our calculations of marginal effective tax rates do not take into account sales taxes levied on intermediate inputs used in the production of machinery, buildings, or inventories, for the reasons found in Wayne R. Thirsk "Indirect federal taxes, the cost of capital and the issue of tax incidence," Economic Council of Canada, Discussion Paper 294, Ottawa, November 1985.

12 Our own calculation of a weighted average for all savers.

13 See Jan Bartholdy, Gordon Fisher, and Jack Mintz, "Taxation and the financial policy of firms: Theory and empirical applications to Canada," Economic Council of Canada, Discussion Paper 324, Ottawa, March 1987.

14 Some features of the existing tax system were introduced in order to counteract the impact of inflation. In the absence of inflation, these features would probably be withdrawn, since otherwise they would cause a considerable decline in tax revenue. Consequently, our calculations with zero inflation assume that there is no inventory allowance.

15 See Glenn Jenkins, "The impact of inflation on corporate taxes and the cash flows of business," *Canadian Tax Journal* 33 (July-August 1985):759-85.

16 See Canada, Department of Finance, *The Corporate Income Tax System: A Direction for Change*, (Ottawa: Finance, May 1985), Table 6, p. 15.

17 See Robin Boadway et al., "Marginal effective tax rates for capital in the Canadian mining industry," *Canadian Journal of Economics* 20, no. 1 (February 1987):1-16.

18 See Mireille Éthier and Dominique Simard, "Marginal effective tax rates for the oil industry in Alberta, 1965-84," Economic Council of Canada, Discussion Paper 314, Ottawa, October 1986.

19 See P. Mercier, "Taux marginaux d'impôt effectifs du secteur de l'habitation au Canada," Economic Council of Canada Discussion Paper (forthcoming).

20 See Mercier, "Taux marginaux d'impôt."

21 Bartholdy et al., "Taxation and the financial policy of firms."

22 Jean-Marie Gagnon, Jean-Marc Suret, and Josée St-Pierre, "Taxes and indebtedness of Canadian corporations," Economic Council of Canada, Discussion Paper 318, Ottawa, March 1987.

23 See Department of Finance, *The Corporate Income Tax System*, p. 18.

24 This situation is not new. As far back as 1966, 47 per cent of companies were in such a position. See Jack Mintz, "The effect of taxation on risk-taking," Economic Council of Canada (forthcoming), Chapter 3.

25 See Michael Daly et al., "A comparison of effective marginal tax rates on income from capital in Canadian manufacturing," *Canadian Tax Journal* 33, no. 6 (November-December 1985):1178-79.

26 The lower dividend tax credit introduced in the 1986 federal budget obviated the need for the 12.5-per-cent dividend distributions tax levied on small businesses – a tax that had been introduced to correct the overintegration of the personal and corporation tax systems that resulted when the dividend tax credit was 33.3 per cent.

27 In 1984, new issues of preferred shares amounted to 46 per cent of the total new issues of bonds and stocks. The value of tax refunds associated with the use of preferred shares has been estimated at between 625 and 938 million dollars per year. See Glenn P. Jenkins, "The role and economic implications of the Canadian dividend tax credit," Economic Council of Canada, Discussion Paper 307, Ottawa, June 1986, pp. 24 and 26.

28 This practice was carried to its extreme in May and June of 1984, when the provincial governments of Manitoba and British Columbia set up "taxable corporations" to hold assets that were structured never to earn a profit. By guaranteeing the repayment of the preferred shares, these provincial governments were able to issue some 400 million dollars' worth of preferred shares at a rate of 9.5 per cent – well below the market interest rate at the time for new debt issues maturing in five and eight years. Although commercial businesses use the preferred-share option to flow out taxable losses, the provincial governments were simply using them to get a direct subsidy through the federal tax system, to finance provincial government expenditures. See Jenkins, "The role and economic implications of the Canadian dividend tax credit," p. 23.

29 Mintz, "The effect of taxation."

30 See Arnold C. Harberger, "The incidence of the corporation income tax," *Journal of Political Economy* 70 (June 1962):215-40.

31 See Sylvester Damus, "Micro-computer simulation with a general equilibrium model of Canada," Economic Council of Canada, Discussion Paper 311, Ottawa, August 1986, Tables 2 and 3.

32 See Michael Daly et al., "A comparison of marginal effective tax rates."

33 The cost to the government of transferring one dollar of tax deductions from a nontaxpaying firm to an individual investor can be as high as 16 dollars. See Glenn P. Jenkins, "Cost effectiveness of after-tax financing: Flow-through shares in Canada," Economic Council of Canada, Discussion Paper (forthcoming).

34 For instance, it is generally argued that because the principal result of R&D is the production of information, the use of which cannot readily be restricted, the private return on R&D will be less, relative to the social return from other forms of investment. If the tax system were to treat all forms of investment activity identically and if private after-tax rates of return on all investment activities were equalized at the margin, the marginal social return on R&D would exceed the marginal social return from other forms of investment. Given the inappropriability of the returns on R&D, resource-allocation decisions that are privately efficient are not socially efficient. This situation can be corrected by granting more favourable tax treatment to R&D than to other forms of investment. (See Donald G. McFetridge and Jacek P. Warda, *Canadian R&D Incentives: Their Adequacy and Impact*, Canadian Tax Paper 70 (Toronto: Canadian Tax Foundation, 1983). Unfortunately, despite the desirability of the objective, available evidence seems to indicate that direct R&D incentives in Canada have increased industrial R&D by only 1 or 2 per cent, which amounts to about one-third of the forgone government revenue. (See Edwin Mansfield, "The R&D tax credit and other technology policy issues," *American Economic Review* 76, no. 2 (May 1986):190-94.)

35 These incentives need not be tax incentives. A lower budget deficit, leading to a reduction in interest rates, would provide a uniform stimulus to all investment.

CHAPTER 4

1 A lump-sum tax is a theoretically ideal tax that cannot be escaped by any change in behaviour. An example is

a head tax in a country where there is no emigration or immigration. Lump-sum taxes have effects on individual behaviour. For example, since they reduce disposable income, they probably increase labour supply. Lump-sum taxes are nondistortionary, however. Their impact consists of a pure-income effect, and their burden is equal to the amount of taxes levied. In addition to an income effect, taxes that are not lump-sum also have a substitution effect. The substitution effect reflects changes in the consumption mix caused by the relative increase in the price of the taxed activity. It is the size of the latter effect that is important in evaluating the efficiency cost of taxes.

2 C. M. Beach, R. Boadway, and N. Bruce, "Taxation and savings in Canada," Economic Council of Canada, Technical Paper (forthcoming).

3 This point was demonstrated by M. Feldstein, "The welfare cost of capital income taxation," *Journal of Political Economy* 86, no. 2 (April 1978):S29-S51 (Part 2).

4 J. Davies, F. St-Hilaire, and J. Whalley, "Some calculations of lifetime tax incidence," *American Economic Review* 74, no. 4 (September 1984):633-49.

5 J. Mincer, *Schooling, Experience and Earnings* (New York: Columbia University Press, 1974); L. A. Lillard, "Inequality: Earnings vs. human wealth," *American Economic Review* 67, no. 2 (March 1977):42-53; and N. S. Blomquist, "A comparison of distributions of annual and lifetime income: Sweden around 1970," *Review of Income and Wealth* 27, no. 3 (September 1981):243-64.

6 Davies, St-Hilaire, and Whalley, "Some calculations of lifetime tax incidence," p. 643.

7 D. Gauthier, "Savings and taxes in a life cycle growth model with age-earnings profile," Economic Council of Canada, Discussion Paper 288, Ottawa, September 1985; and Beach, Boadway, and Bruce, "Taxation and savings in Canada."

8 L. H. Summers, "Capital taxation and accumulation in a life cycle growth model," *American Economic Review* 71, no. 4 (September 1981):533-44.

9 D. Gauthier, "Taxation and life cycle savings behaviour in a small open economy," Economic Council of Canada, Discussion Paper 306, Ottawa, June 1986.

10 B. Hamilton and J. Whalley, "Tax treatment of housing in a dynamic sequenced general equilibrium model," *Journal of Public Economics* 27, no. 2 (July 1985):157-75.

11 Samuel A. Rea, Jr., "The impact of taxes and transfers on labour supply: A review of the evidence," a report prepared for the Ontario Economic Council, Toronto, September 23, 1983, 45 pages, mimeo; and Lars Osberg, "Behavioural response in the context of socio-economic microanalytic simulation," a report to the Social and Economic Studies Division, Statistics Canada, April 1986, 93 pages, mimeo.

12 E. Cloutier, "Taxes and the labour supply of married women in Canada," Economic Council of Canada, Discussion Paper 305, Ottawa, May 1986.

13 T. A. Mroz, "The sensitivity of an empirical model of married women's hours of work to economic and statistical assumptions," *Econometrica* (forthcoming).

14 E. J. Driffill and H. S. Rosen, "Taxation and excess burden: A life cycle perspective," *International Economic Review* 24, (October 1983):671-83.

15 A. J. Auerbach, L. Kotlikoff, and J. Skinner, "The efficiency gains from dynamic tax reform," *International Economic Review* 24, no. 1 (February 1983):81-100.

16 These arguments are presented in M. J. Daly, G. J. Lastman, and F. Naqib, "The role of tax-deductible saving in the transition from a progressive income tax to a progressive consumption tax," Economic Council of Canada, Discussion Paper 308, Ottawa, June 1986.

CHAPTER 5

1 D.J.S. Brean, "International issues in taxation: The Canadian perspective," Canadian Tax Paper 75, Canadian Tax Foundation, Toronto, 1984.

2 This section follows D. J. S. Brean, "International portfolio capital: The wedge of the withholding tax," *National Tax Journal* 37, no. 2 (June 1984):239-48.

3 Recently, the United States also exempted from withholding taxes some interest payments to non-residents, and West Germany reinstated a similar exemption.

4 J. R. Melvin, *The Tax Structure and Canadian Trade*, Economic Council of Canada (Ottawa: Supply and Services Canada, 1975) Chapter 2. Melvin's suggested recommendation seems to have promised too much, however, since Canada cannot abolish both Canadian *and foreign* corporate income taxes on Canadian industry.

5 In this respect, it is interesting to note that anti-combines legislation of most countries exempts exporters from penalties on price-fixing.

6 Moreover, most economists agree that technical difficulties in the statistical estimation of the extent to which domestic taxes can be shifted abroad usually impart an upward bias to such estimates.

The recent experience with lumber does not contradict the judgment expressed here. The case of lumber may be a case of good luck, where the bad effect of a new tax has been temporarily swamped by the good effect of a cyclical upturn in product prices.

7 Indeed, the corporate income tax rates of most developed countries tend to be within about 10 percentage points of the U.S. rate.

8 John Mutti and Harry Grubert, "Corporate and personal taxation of capital income in a model with trade and capital mobility," U.S. Treasury, September 1983, mimeo.

9 Antal Deutsch and Glenn P. Jenkins, "Tax incentives, revenue transfers, and the taxation of income from foreign investment," in W. R. Thirsk and J. Whalley, *Tax Policy Options in the 1980s*, Canadian Tax Paper 66, Canadian Tax Foundation, Toronto, February 1982, pp. 217-46.

10 Deutsch and Jenkins, in *Tax Policy Options*, p. 230.

11 See Brean, "International issues," p. 110.

12 This note will attempt to explain arbitrage by example rather than define it. The oldest field for arbitrage is in

international currency markets. If a Canadian dollar sells for $0.70 U.S. and the U.S. dollar costs 2 DM, how many deutsche marks is a Canadian dollar worth? If the price is other than 1.4 DM, arbitrageurs can profit by buying the underpriced currency and converting it into the overpriced one. Such transactions will, of course, drive currency prices to levels where they maintain consistent ratios among them. Arbitrage arises wherever an opportunity for profit is created by attempts to charge two different prices for what is essentially the same thing. The effect of arbitrage is to impose the "law of one price." Now think about an illustration of small-scale tax arbitrage. Suppose you and I each contribute $100 to our church and make corresponding deductions of charitable contributions from our taxable incomes. You are in a high tax bracket, so your contribution causes you to expect a tax refund of, say, $50, whereas I am in a low bracket and can expect only a $20 refund; yet we can both profit from this situation, in which identical acts have different tax consequences. I put my contribution in your offering envelope; you deduct $200 and I deduct none. Our total tax refunds consequently jump from $70 to $100, and we split the difference. Of course, this action is illegal, and we would not do it. But similar arrangements on a much larger scale are legal and are repeated untold times. Whenever a taxpayer legally takes advantage of discriminatory tax provisions, even if those provisions are unfavourable when viewed in isolation, the result is "tax arbitrage."

13 Canadian subsidiaries of U.S. corporations have correspondingly lower debt/asset ratios than comparable Canadian-owned firms.

14 These rules limit the deduction of interest on non-arm's-length loans. Their bite can usually be avoided by borrowing at arm's length, even if at the cost of paying (deductible) interest at a somewhat higher rate.

15 See also D.J.S. Brean, "Financial dimensions of transfer pricing," in A. M. Rugman and L. B. Eden, *Multinationals and Transfer Pricing* (London: Croom-Helm, 1985), pp. 149-69; and Don Lessard, "Transfer prices, taxes and financial markets: Implications for internal financial transfers within the multinational corporation," in R. G. Hawkins, ed., *The Economic Effects of the Multinational Corporation* (Greenwich, Conn.: JAI Press, 1979), pp. 101-28.

16 Brean, "International issues," p. 129.

17 Deutsch and Jenkins, in *Tax Policy Options*.

18 D. Gauthier, "Taxation and life cycle savings behaviour in a small open economy," Economic Council of Canada, Discussion Paper 306, Ottawa, June 1986.

19 See D. G. Hartman, "Tax policy and foreign direct investment, Working Paper 689, National Bureau of Economic Research, New York, June 1981.

20 Deutsch and Jenkins, in *Tax Policy Options*. This retention ratio depends in part on the benefit from deferral of U.S. taxes, which might decline following U.S. tax reform.

21 The difference with the previous result, which is 0.6 to 4.2 per cent of lifetime income, can be regarded as a rough estimate of the cost to Canada of effective foreign-country taxes on the Canadian-source capital income of non-residents.

22 An elasticity of substitution between capital and labour of 0.5 is implied.

23 As by deemed realization of capital gains by emigrants.

24 The Meade Committee discussed at length the "emigrant problem" that might arise under a hypothetical U.K. expenditure tax, starting from the premise that overseas investments by U.K. residents would be registered (p. 434). Their discussion concerned also "emigrants" who later returned to the United Kingdom after a long or short absence (p. 441). An exit tax would be required in every case, and this tax would be refundable depending on the length of absence. Furthermore, "all foreign assets would have to be held" as under exchange control "through U.K. authorized depositories, a rule that would be applied to assets in all territories not subject to the U.K. tax regime. In addition, all remittances sent abroad would have to continue to be transmitted through authorized depositories, who would be required to obtain a tax clearance before making subtantial remittances or releasing control over foreign assets deposited with them. The tax clearance would only be given when all outstanding tax, including exit tax, had been paid. . . ." [p. 441]. Institute of Fiscal Studies, *The Structure and Reform of Direct Taxation*, Report of the Meade Committee, a committee chaired by Professor J. E. Meade (London: Allen & Unwin, 1978).

25 Meade Committee, *Reform of Direct Taxation*, pp. 173, 412, 422-23, 445, and 505.

26 See J. B. Davies and France St-Hilaire, "Reforming capital income taxation in Canada: Efficiency and distributional effects of alternative options, Economic Council of Canada (forthcoming), Chapter 5.

27 Meade Committee, *Reform of Direct Taxation*, pp. 437-38.

CHAPTER 6

1 Note that a cash-flow tax and a withholding tax are not mutually exclusive. The two types of tax could operate together, as they do at present in the resource sector, where there are both mining profit taxes and corporation taxes.

2 See *Report* of the Royal Commission on the Economic Union and Development Prospects for Canada, hereinafter referred to as the Macdonald Commission report, Part III (Ottawa: Supply and Services Canada, 1985), pp. 206-209.

3 This section draws on Robin Boadway, Neil Bruce, and Jack Mintz, "Taxes on capital income in Canada: Analysis and policy," Queen's University, Kingston, Chapter 5, mimeo.

4 The Carter Commission Report considered the withholding function to be the only real function of the corporation tax. Canada, Royal Commission on Taxation, *Report* (Ottawa: Queen's Printer, 1966).

5 In the case of resource rents, it is legitimate for governments to exercise their property rights through some form of taxation if the resource endowment is considered the property of the province or nation.

6 A cash-flow business tax can thus be viewed as a tax on profits plus interest, under which all investment expenditures are immediately deductible.

7 See Institute for Fiscal Studies, *The Structure and Reform of Direct Taxation*, Report of a Committee chaired by Professor J. E. Meade, hereinafter referred to as the Meade Committee Report (London: Allen and Unwin, 1978); and the Macdonald Commission Report, Part III, pp. 206-209.

8 Among the four countries investigated by King and Fullerton, marginal effective tax rates on capital income were both the lowest on average and the least uniform in the United Kingdom. The reason was that until 1984 the U.K. tax system allowed immediate expensing of investments in machinery, as well as the deductibility of interest expenses, for corporate tax purposes. See Mervyn King and Don Fullerton, *The Taxation of Income from Capital* (Chicago: Chicago University Press, 1984).

9 Under a personal expenditure tax, individuals would pay taxes on capital income when they spent it on consumption. A personal tax that exempted all capital income in conjunction with a cash-flow corporation tax would give a similar result.

10 An identical result would be obtained if income accruing from nonregistered savings were tax-exempt and if all restrictions on RRSP contributions (and withdrawals) were removed. See M. J. Daly, and F. Naqib, "Designing a nondistortionary personal tax system for Canada," *Economics Letters* 18 (1985):209-12.

11 To the extent that new investment by subsidiaries of foreign companies operating in Canada is financed out of their Canadian earnings, the disallowance of the deduction for interest expenses under a cash-flow corporation tax would have little impact on foreign investment in Canada. During the period 1975-79 more than 90 per cent of the growth of direct investment in Canada was financed with reinvested earnings.

12 The Meade Committee, *Reform of Direct Taxation*, p. 230.

13 The Meade Committee, *Reform of Direct Taxation*, p. 233.

14 Confederation of British Industry, *Tax-Time for Change* (London: December 1985).

15 Canada, Department of Finance, *The Corporate Income Tax System: A Direction for Change* (Ottawa: Finance, May 1985).

16 See, for example, William R. Lawlor, "Surplus stripping and other planning opportunities with the new $500,000 capital gains exemption," *Canadian Tax Journal* 34, no. 1 (January-February 1986):49-110.

17 See Department of Finance, *Budget Papers* (Ottawa: Finance, 1986).

18 The calculation of true economic depreciation is by no means a trivial exercise; however, the estimates provided by Hulten and Wykoff may be reasonable approximations. See Charles R. Hulten and Frank C. Wykoff, "The measurement of economic depreciation," in *Depreciation, Inflation and the Taxation of Income from Capital*, ed. C. Hulten (Washington, D.C.: Urban Institute Press, 1981).

19 A drop of this magnitude in the statutory corporation-tax rate would result in considerable windfall gains to owners of existing capital. The proposed lifetime exemption of $500,000 for capital gains greatly reduces the amount of taxes that would be paid on such windfall gains. At the same time, however, any drop in the statutory corporation-tax rate would reduce the tax value of corporation tax losses carried forward.

20 The appropriate integrated tax treatment of savings channeled through life insurance companies is much more complicated. See B. Dahlby and A. Macnaughton, "Taxation of life insurance in Canada," Economic Council of Canada, Discussion Paper 313, Ottawa, September 1986.

21 See Glenn P. Jenkins, "The role and economic implications of the Canadian dividend tax credit," Economic Council of Canada, Discussion Paper 307, Ottawa, June 1986, p. 38.

22 For example, an individual could raise horses because he enjoys doing so or as a profitable economic activity. Presumably, the government would not want to subsidize the former; neither would it want to discourage the latter. The only way it can distinguish between the two types of activity is to require the individual who claims that he is raising the horses for profit to make a profit. If he turns out to be unsuccessful, then he is classified as having embarked on the activity for enjoyment, even if that was not his motive. See A. B. Atkinson and J. E. Stiglitz, *Lectures on Public Economics* (Maidenhead, Berkshire, England: McGraw-Hill Book Company (U.K.) Limited, 1980), p. 115.

23 Flow-through shares are devices that permit companies to renounce the tax allowances associated with their investment expenditures in favour of the shareholders that provide the funds for those expenditures. The shareholders can then use the allowances immediately to reduce their own taxable incomes. For an evaluation of flow-through shares as a financing instrument, see Glenn P. Jenkins, "Cost-effectiveness of after-tax financing: Flow-through shares in Canada," Economic Council of Canada, Discussion Paper (forthcoming).

24 Note that if the total package included a personal expenditure tax, the total (corporate plus personal) marginal effective tax rate would correspond to the marginal effective corporation-tax rate shown in column 8 of Table 6-9.

25 Shareholders typically face a marginal personal-tax rate of about 42 per cent; therefore, with a 50-per-cent dividend tax credit the marginal effective personal-tax rate on dividend income would be 13 per cent. Based on an estimated average holding period of 10 years for shares, the taxation of one-half of realized capital gain would result in an effective accrued tax rate on capital gains equal to approximately 13 per cent, which is the same as the marginal effective personal-tax rate on dividends.

26 Our package of corporation tax measures (which includes the abolition of the depletion allowance) reflects our intent to accomplish revenue neutrality in respect of the corporation tax. Once all the tax measures were decided upon, the statutory corporate-tax rate was chosen so as to keep corporate-tax revenues roughly constant. Needless to say, our revenue calculations are rather rough, so

that the required statutory corporate-tax rate could be somewhat higher or lower than the 33.3 per cent arrived at here.

27 In effect, inventory and capital cost allowances provided as tax relief for inflation would be reduced by an amount corresponding to the inflation rate multiplied by firms' outstanding net debt. Similar proposals can be found in the *Report of the Ontario Committee on Inflation Accounting*, June 1977, pp. 68-71.

28 The average corporate-tax rate is defined as the total of federal and provincial corporate income taxes divided by book profit before taxes. In 1984, federal plus provincial income tax amounted to $12.5 billion, whereas book profit before taxes amounted to $56.9 billion. See Statistics Canada, *Corporation Taxation Statistics*, Cat. 61-208, 1984, Table 2.

29 Since shareholders typically face a marginal personal-tax rate of about 42 per cent, with a 33.3-per-cent tax credit the marginal effective personal-tax rate on dividend income would be roughly 23 per cent. Based on an estimated average holding period of 10 years for shares, full taxation of capital gains upon realization would result in an effective accrued tax rate on capital gains equal to approximately 26 per cent.

CHAPTER 7

1 C. M. Beach, R. Boadway, and N. Bruce, "Taxation and savings in Canada," Economic Council of Canada, Technical Paper, Ottawa (forthcoming), Chapter 10.

2 David F. Bradford, *Blueprints for Basic Tax Reform*, Tax Analysts (Arlington, Virginia: 1984), Chapter 2; and Beach, Boadway, and Bruce, "Taxation and savings in Canada."

3 This issue, however, was addressed in an earlier Council report, which recommended that such a restriction be relaxed as circumstances permitted. Economic Council of Canada, *One in Three: Pensions for Canadians to 2030* (Ottawa: Supply and Services Canada, 1979), Recommendation 10, pp. 105-106.

4 In addition, because the substantial gain represents a return above the discount rate, the net present value of tax under a cash-flow treatment will exceed that under a tax-prepaid treatment by the present value of the tax on the pure profit, even when the proper marginal rate is used throughout.

For example, consider a taxpayer in the 30-per-cent marginal tax bracket who earns $1,000, before tax, that he wishes to save. He earns a 20-per-cent return, while the discount rate is 10 per cent. The savings are withdrawn and spent at the end of one year. Under the tax-prepaid method, $300 is paid in taxes, leaving $700 to earn a tax-exempt return. In the cash-flow method, the full $1,000 is invested at 20 per cent. At the end of the year, $360 is paid in taxes upon withdrawal, the present value of which is $327.27. The extra present value of $27.27 is the tax on the pure profit, which the tax-prepaid method did not capture.

CHAPTER 8

1 E. Cloutier, "Taxes and the labour supply of married women in Canada," Economic Council of Canada, Discussion Paper 305, Ottawa, May 1986. This study incorporates marginal-rate illusion and assumes absence of average-rate illusion.

2 Malcolm Gillis, "Federal sales taxation: A survey of six decades of experience, critiques, and reform proposals," *Canadian Tax Journal* 33, no. 1 (January-February 1985):71.

3 Of course, there are administrative reasons for including construction materials and manufactured items in the sales tax base, since it may be nearly impossible to distinguish goods sold for business purposes from goods sold for household use.

4 The tax is deductible from profits declared in the home country, but a deduction is always less attractive than a credit of equal amount.

5 Wayne Thirsk, "Indirect federal taxes, the cost of capital, and the issue of tax incidence," Economic Council of Canada, Discussion Paper 294, Ottawa, 1985, Table 17.

6 Exemption of housing might simply mean that taxes on purchased inputs to housing would remain but that the value added by the services of housing capital would bear the property tax only and not the BTT.

7 Alternatively, it may be argued that indexation of transfer payments shields low-income households from tax increases and that therefore a sales, value-added, or business transfer tax could even be mildly progressive (cf. Edgar K. Browning, "The burden of taxation," *Journal of Political Economy* 86, no. 4 (August 1978):649-72. Whether this would also be so in Canada is an empirical question. Some transfers may not be indexed; other important transfers, such as unemployment compensation, are based on previous earnings. Thus Browning's judgment that indirect taxes are less regressive than is commonly thought may not apply in Canada.

CHAPTER 9

1 In Canada, local income taxes were abandoned in 1941, when the provinces entered into the Wartime Tax Rental Agreement with the federal government. Some municipalities in Quebec levied their own sales taxes until the province took over complete responsibility for sales tax in 1964.

2 For a review of empirical studies on property tax incidence in Canada, using current annual income, see W. Thirsk, "Political sensitivity versus economic sensibility: A tale of two property taxes," in *Tax Policy Options in the 1980s*, ed. W. Thirsk and J. Whalley, Canadian Tax Paper 66 (Toronto: Canadian Tax Foundation, February 1982), pp. 384-407.

3 See R.-P. Domingue, "Assessment and fiscal treatment of imputed rents for homeowners-occupiers," Economic Council of Canada, Discussion Paper 319, Ottawa, March 1987, pp. 61-62.

4 For a review of this U.S. literature, see S. K. Mayo, "Theory and estimation in the economics of housing demand," *Journal of Urban Economics* 10 (1981):95-116.

5 See, for instance, P. Chinloy, "Effective property taxes and tax capitalization," *Canadian Journal of Economics* 11, no. 4 (November 1978):740-50.

6 See, for example, P. Mieszkowski and G. R. Zodrow, "The new view of the property tax: A reformulation," National Bureau of Economic Research, Working Paper 1481, New York, October 1984.

7 See Thirsk, "Political sensitivity versus economic sensibility," p. 390. For an alternative reconciliation of the old, new, and benefits view of the property tax, see P. Hobson, "The economic effects of the property tax: A survey," Economic Council of Canada, Discussion Paper 317, Ottawa, February 1987.

8 See D. Fullerton and Y. Henderson, "Incentive effects of taxes on income from capital: Alternative policies in the 1980s," National Bureau of Economic Research, Working Paper 1262, New York, January 1984, Table 5.

9 Horizontal inequity may also arise as a result of differential ownership and consumption patterns within income groups.

10 The undervaluation of properties relative to market value is not by itself a cause of horizontal inequity. If a given level of tax revenue must be raised and all properties are assessed at a constant fraction of market value, the undervaluation will merely lead to higher statutory tax rates than would occur under a scheme of full market-value assessment.

11 See, for instance, D.A.L. Auld, "Taxing capital by taxing real property: The critical issues," a background paper prepared for the Economic Council of Canada, 1985, p. 87.

12 See, for instance, H. M. Kitchen, *Local Government Finance in Canada* (Toronto: Canadian Tax Foundation, 1984), p. 215.

13 This argument is meaningful only if the property taxes cannot be shifted forward to consumers. Under the traditional view of the property tax, business property taxes are shifted forward. The new view suggests that they are borne by the owners of capital.

14 The federal Department of Finance estimates that nearly two-thirds of all corporations are "rarely," or only "sometimes," taxable. See Canada, Department of Finance, *The Corporate Income Tax System: A Direction for Change* (Ottawa: Finance, May 1985), p. 18.

15 That is, machinery and equipment that is not affixed to the building, since in most jurisdictions affixed machinery and equipment is part of the property tax base.

16 See, for instance, J. Davies and F. St-Hilaire, *Reforming Capital Income in Canada: Efficiency and Distributional Effects of Alternative Options*, Economic Council of Canada, Ottawa (forthcoming), Chapter 2.

17 See S. Damus, P. Hobson, and W. Thirsk, "The welfare effects of property taxation in an open economy," Economic Council of Canada, Discussion Paper 320, Ottawa, March 1987; and S. Devarajan, D. Fullerton, and R. Musgrave, "Estimating the distribution of tax burdens: A comparison of different approaches," *Journal of Public Economics* 13, no. 2 (April 1980):155-82.

The reason for this result is fairly straightforward. Two opposing effects are at work. A reduction in business property tax rates reduces the potential for exporting the property tax burden to foreigners. At the same time, it also reduces the variation in capital tax rates, since capital invested in real property is, on average, taxed at a higher rate than capital invested in other factors of production. Although the degree of tax exporting is reduced, the decrease in the tax-rate variance results in an improved allocation of resources. On balance, the efficiency gain dominates the calculation of welfare change, so there is an improvement in overall welfare.

18 See, for instance, Damus, Hobson, and Thirsk, "The welfare effects of property taxation."

19 See J. G. Ballentine and W. Thirsk, *Taxation without Representation: The Consequences of Taxing Non-Residential Property* (Ottawa: Canada Mortgage and Housing Corporation, 1982).

20 See, for example, R. M. Bird, "The incidence of the property tax: Old wine in new bottles?" in *Canadian Public Policy* 2 (Supplement, 1976); J. Bossons, "Property tax reform: What is desirable?" in *Municipal Fiscal Reform in Ontario* (Toronto: Ontario Economic Council, 1981); Hobson, "The economic effects of the property tax"; Kitchen, *Local Government Finance in Canada*; and Thirsk, "Political sensitivity versus economic sensibility."

21 Several provincial governments now transfer a portion of their tax revenue to municipalities. Since 1976, the province of Manitoba has distributed 2.2 percentage points of personal federal basic tax and 1 percentage point of corporate taxable income to municipal governments. This revenue is distributed on a per-capita basis and replaces former unconditional grants. Similar revenue-sharing programs have existed in British Columbia since 1977 and in Saskatchewan since 1978. In these two provinces, the revenue base is more than income taxes, but the income tax is the largest proportion of the tax base. The revenue is distributed to the municipalities in these two provinces through conditional and unconditional grants.

22 See Kitchen, *Local Government Finance in Canada*, pp. 213-14.

23 See R. M. Bird, *Charging for Public Services: A New Look at an Old Idea*, Canadian Tax Paper 59 (Toronto: Canadian Tax Foundation, 1976), p. 332.

24 See R. M. Bird, and N. Slack, *Residential Property Tax Relief in Ontario* (Toronto: Ontario Economic Council, 1978), p. 1.

CHAPTER 10

1 See John F. Helliwell, "Effects of taxes and royalties on copper mining investment in British Columbia," in *Resources Policy* (1978):35-44. Federal depletion allowances have changed significantly since 1973. They are almost totally phased out of the oil and gas industries, and survive in other mining as "earned depletion" allowances.

2 Or when it is difficult to extract the resource in diminishing order of grade and to vary the capacity of utilization rate. See Paul G. Bradley, John F. Helliwell, and John

R. Livernois, "Efficient taxation of resource income: The case of copper mining in British Columbia," in *Resources Policy* 7, no. 3 (1981):161-70.

3 Canada, Department of Finance, *The Corporate Income Tax System: A Direction for Change* (Ottawa: Finance, May 1985), p. 8.

4 It should be noted that the computation of effective tax rates assumes that firms have taxable profits and consequently are in a position to take full advantage of deductions, exemptions, and credits offered by the tax law. In 1984, however, only 2,454 corporations operating principally in mining, and in oil and gas, paid taxes, whereas another 4,458 did not, since they had suffered losses. The losses, however, amounted to only $1,206 million, compared with $7,124 million of profits that were subject to tax. (Statistics Canada, *Corporation Taxation Statistics*, Cat. 61-208, 1984, Table 9.)

5 "Taxes" in the study included federal and provincial corporation taxes, together with provincial mining taxes and royalties. See Robin Boadway, Neil Bruce, Ken McKenzie, and Jack Mintz, "Marginal effective tax rates for the Canadian mining industry," *Canadian Journal of Economics* 20, no. 1 (February 1987):1-16.

6 See Mireille Ethier and Dominique Simard, "Marginal effective tax rates for the oil industry in Alberta, 1965-84," Economic Council of Canada, Discussion Paper 314, Ottawa, October 1986.

7 The methodology used to generate marginal effective tax rates for the manufacturing sector reported in this study use costs of equity and debt financing that are not derived from market data. The calculations of resource-sector data for this section use market data. (The implication is that the tax rates calculated for the resource sector are closer to the actual ones facing the firms.) A second difference is that the required rates of return on equity used for the resource sector include industry-specific risk premiums.

8 Robin Boadway, Neil Bruce, and Jack Mintz, "Taxation, inflation, and the effective marginal tax rate on capital in Canada," in *Canadian Journal of Economics* 17, no. 1 (February 1984):62-79.

9 Canada, Department of Finance, *The Corporate Income Tax System*, p. 15.

10 See Margo J. Wojciechowski, ed., *Canadian Mining Taxation*, Proceedings No. 17 of the Centre for Resource Studies (Kingston, Ontario: Queen's University, 1985).

11 Glenn P. Jenkins, "Cost-effectiveness of after-tax financing: Flow-through shares in Canada," Economic Council of Canada, Discussion Paper 327, Ottawa, June 1987.

12 See, for example, Robert D. Cairns, 1985, "Reform of exhaustible resource taxation," in *Canadian Public Policy* 11, no. 4 (1985):649-58.

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Figure

4-1 Life-Cycle Pattern of Earnings, Consumption, Savings, and Wealth 42

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